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ABSTRACT

Specific objectives of a cooperative university-industry occupational internship program were to (1) develop an assessment system to identify the competencies possessed and needed by individuals in the target population; (2) develop the guidelines, procedures, and necessary software for conducting a departmental cooperative university-industry occupational internship program; (3) prepare local school vocational agriculture teachers as coordinators to assist in the supervision of students placed on internships; and (4) identify agricultural businesses and personnel capable and willing to provide internship learning experiences for undergraduate students and teachers of vocational agriculture. Thirty-two currently employed teachers of vocational agriculture became instructor-coordinators and assisted in the placement and supervision of the fifty-two undergraduate students completing internships, which included involving the students in local school and community agriculture activities. Fifteen currently employed teachers of vocational agriculture also completed internships. The program's success prompted eleven recommendations which included permanently establishing a university-industry occupational internship program. (Three-fourths of the report is comprised of an appendix which includes a self-assessment inventory covering eight agricultural occupation areas for use by interns for determining proficiency in the area in which certification is desired.) (BL)

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DEVELOPMENT AND IMPLEMENTATION
OF INTERNSHIP PROGRAMS
IN AGRICULTURAL OCCUPATIONS FOR
PRESENT AND PROSPECTIVE
VOCATIONAL AGRICULTURE TEACHERS

BY

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FOREWORD

The preparation of competent teachers for occupational education continues to be a primary goal and responsibility in teacher education. An examination of individual state's certification requirements reveals differing perceptions regarding the preparation activities that assist in the development of competent occupational teachers. First, the certification criteria generally relate to activities that assist in developing professional competence; that is, skills in directing and guiding the learning process. Second, the certification criteria generally relate to preparation activities that assist in developing occupational competence; that is, skills in performing various jobs and knowledge of various job-related behaviors.

The Department of Agricultural Education at The Ohio State University is involved in a continuous programmatic effort to improve the pre-service and the in-service teacher education curriculum. Included in the program are activities that assist in the development of professionally and occupationally competent teachers. It is our belief that occupational competence is an important and essential requisite for success as a teacher of vocational agriculture.

One product of this programmatic effort within the Department is this report regarding the development and implementation of a cooperative university-industry

occupational internship program in agricultural occupations for undergraduate students and currently employed vocational agriculture teachers. It is hoped that the information provided herein will be helpful to other departments, colleges, and universities in developing and conducting occupational internship programs.

The activities reported herein were supported by an EPDA grant obtained through the Division of Vocational Education, Ohio Department of Education. Gratitude is extended to Mr. James E. Dougan, Assistant Director, Vocational Education Agricultural Education Service; the supervisors of vocational agriculture; and Dr. Roy M. Kottman, Dean of the College of Agriculture and Home Economics, for their interest and support in the conduct of the project. Also, gratitude is expressed to the faculty and staff in the Department of Agricultural Education at The Ohio State University for their support and understanding in the development and implementation of the program. A special note of thanks is extended to the vocational agriculture teachers, undergraduate students, and employers who participated in the program. Appreciation is extended to Mary E. Earhart, project secretary, for her cooperation and excellent work.

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Department of Agricultural Education

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Program Director

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INTRODUCTION

The quality of vocational agriculture education delivered to the public will reside, to a significant degree, with the local vocational teacher. Teachers of vocational agriculture have a responsibility to ensure that students preparing for the world of work are adequately prepared to secure gainful employment and succeed through consistent advancement in their chosen careers. Specifically, the vocational agriculture teacher must provide instruction and learning experiences for students in the practical aspects of performing a specific job or cluster of related jobs. Therefore, the recruitment and adequate preparation of vocational agriculture teachers is of primary importance in the continued delivery of quality education in vocational agriculture. This report focuses upon the incorporation of experiential activities in agricultural businesses as a necessary component in the teacher education program for the preparation of vocational agriculture teachers.

Rationale

Continued emphasis in agricultural education is being given to the development and/or improvement of the vocational agriculture teacher's occupational proficiency. Several developments have provided the basis for the development of occupational work experience activities as an integral

component of the pre-service and in-service program in teacher education. First, the rapidity of technological change in the agricultural sector often makes previously acquired occupational skills obsolete within a relatively short period of time. Therefore, there exists a demand for opportunities by which undergraduate students and currently employed teachers may up-date and/or develop technical agricultural skills.

The limited work experiences of many undergraduate students and teachers provide a second reason for the incorporation of practical work experience as a component of the pre-service and in-service program. The prior work experience of the individuals may be limited in terms of depth and/or breadth. Many of the undergraduate students enrolled in the Department of Agricultural Education are essentially without experience in many of the skills which were possessed by undergraduate students in previous decades. For example, many of today's undergraduate students aspiring to become vocational horticulture teachers do not have parents who owned and operated a family horticulture business. A majority of the undergraduates desiring to teach horticulture have no previous horticultural work experience. A similar problem exists for undergraduates with aspirations of teaching in small animal care, forestry, agricultural resources, agribusiness supply and service, agricultural mechanics, and, to some extent, production agriculture programs. As a result,

students in agriculture are finding that their lack of practical experience limits their understanding of problems they encounter and hence their effectiveness as teachers of vocational agriculture. This situation has resulted in potential employers of graduates to insist upon a minimal level of practical work experience prior to graduation.

Justification for the incorporation of practical work experiences in the program becomes evident when one examines the scope of many of today's agricultural businesses. During the past decade we have witnessed an increasing degree of specialization in agricultural businesses. Horticultural firms, agricultural service and supply firms, equipment dealerships, and farms are increasingly becoming larger in size; however, in some cases this increase in size has also resulted in a greater degree of specialization. For example, the number of general farms in Ohio is decreasing in number; however, specialized farms (one or two major enterprises) increasingly are representing a larger proportion of the total number of full-time farms. Exemplary of this degree of specialization in farming is the nature of production agriculture in Northwestern Ohio. Many of the students from these farms have extensive practical work experiences related to commercial grain farming with no experience in livestock production. Although some of the students have practical work experience, this experience is often limited in breadth or scope of the total realm of agriculture. Therefore, it

is often desirable for students and teachers with previous practical work experiences to broaden those experiences.

The incorporation of practical work experiences in the college program is justifiable from the viewpoint of educational psychologists. Providing practical work experience assists in heightening student motivation for learning and reinforces theoretical training. The practical work experience motivates students to learn through the application of knowledge in the solution of practical problems. Practical work experiences provided through an internship program will promote effective learning because student interest will be developed and maintained. Effective learning will be enhanced through internship work experiences because student needs are being met. Most of today's undergraduate students possess an attitude of wanting to do something in learning situations that are directly relevant to their goals and objectives. Learning is a self-active process wherein each individual learns to the extent to which he participates in the process. Internship programs provide an opportunity for students to become active in the process and learn by doing.

The opportunity for college students to participate in practical work experiences as a part of the regular academic program is recommended because of its value in assisting students to make career decisions. The participation in work experiences in business and industry may assist students in assessing and clarifying their capabilities and

potentialities in various agricultural positions. This provides students the opportunity to make a firm career commitment based on experiential activities. Internship work experiences also give the college staff and faculty an opportunity to become better acquainted with the students for the purpose of appraising their capabilities and potentialities.

Purpose and Objectives

The primary purpose of this project was to develop, implement and conduct a cooperative university-industry occupational internship program for undergraduates aspiring to become vocational agriculture teachers and for currently employed vocational agriculture teachers. Accomplishment of this purpose embodied two essential elements. First, the project was designed to assess the occupational competencies of undergraduate students in Agricultural Education. Second, the project was designed to provide cooperatively planned internships in agricultural businesses through which students and teachers could develop occupational knowledge, skills, and attitudes essential for successful employment as teachers of vocational agriculture.

The specific objectives of the project were to:

1. Develop an assessment system to identify the competencies possessed and needed by individuals in the target population.
2. Develop the guidelines, procedures, and necessary "software" for conducting a departmental cooperative

university-industry occupational internship program.

3. Prepare local school vocational agriculture teachers as coordinators to assist in the supervision of students placed on internships.
4. Identify agricultural businesses and personnel capable and willing to provide internship learning experiences for undergraduate students and teachers of vocational agriculture.

Project Impact

The scope of agriculture education is ever increasing. In Ohio approximately 21,000 high school students are enrolled in high school vocational agriculture programs with a significant number of adults also receiving instruction through these programs. Approximately 700 teachers of vocational agriculture are currently providing this instruction through the regular high school day program and through adult education classes. The Department of Agricultural Education at The Ohio State University currently has a total of 180 undergraduate majors with approximately 50 graduating annually. In addition, many of the high school teachers of vocational agriculture in Ohio are enrolled in the graduate education program. In spite of the relatively large number of students graduating each year certified to teach vocational agriculture, Ohio annually faces a shortage of vocational agriculture teachers. The implementation of the occupational internship program in the Department of Agricultural Education aids in providing qualified teachers needed to serve an increasing number of youth and adults

enrolled in vocational agriculture.

The project served several groups of people who are involved in Ohio's expanding program of vocational education in agriculture. The first group of people served was currently employed teachers who served as instructor-coordinators. A total of 32 currently employed teachers of vocational agriculture completed a workshop for becoming instructor-coordinators to assist in the placement and supervision of undergraduate students completing internships. These teachers were representative of the following taxonomy areas in vocational agriculture: (1) Production agriculture; (2) Agribusiness supply and service; (3) Agricultural-industrial equipment mechanics; (4) Forestry; (5) Horticulture; (6) Agricultural resources; and (7) Small animal care.

A second group of persons served by the program was currently employed teachers of vocational agriculture. A total of 15 currently employed teachers of vocational agriculture completed internships for the purpose of developing new and/or up-dating technical agriculture competencies. Teachers completed internships in a variety of work situations including dairy farms, swine farms, feed mills, grain terminals, agricultural equipment dealerships, state department of natural resources offices, nurseries, golf courses, greenhouses, floral shops, fertilizer plants and landscape firms.

The final group of people served was undergraduate students in the College of Agriculture, Home Economics, and

Natural Resources at The Ohio State University. A total of 123 undergraduate students completed an assessment process for the purpose of assessing the current occupational proficiency of the students in the appropriate taxonomy area of certification. As a result of the assessment process and through counsel with the undergraduate students' advisors, a total of 73 students were recommended for participation in the internship program. During the 1975-1976 school year, a total of 52 students completed internships. Several other students were offered internship positions, but they did not accept the positions for a variety of reasons. The remainder of the students will be involved in internship work experiences in future years prior to their graduation. It is projected that approximately 90-100 students will be participating on internships during the 1976-1977 school year.

OPERATION OF THE INTERNSHIP PROGRAM

It is the purpose of this report to provide information that may assist others who are interested in developing and implementing an occupational internship program as part of the teacher education pre-service and in-service curriculum. Offered herein are procedures and practices that have been found applicable to the occupational internship program implemented in the Department of Agricultural Education. Obviously not all possible internship situations have been encountered during our pilot phase. However, the practices and

procedures described are the result of actual field experience secured through the placement and assessment of persons in various agricultural internship settings. The reactions from interns and employers have provided much useful information for revising these practices and procedures.

Planning the Program

Fundamental planning was the first aspect in designing the internship program. Much of this planning involved the project personnel, a consultation committee, and consultation with selected individuals in the state department of education, the university, and in agricultural businesses. The individuals involved had varied backgrounds in agriculture and education and a strong interest in the program. These personnel were very helpful in reacting to issues and concerns regarding the operation of the program. The input of such people in the basic decisions regarding the operation of the program is essential if the internship program is to become a viable component of the curriculum. These people assisted in making decisions regarding the administration of the program; university credits to be awarded for internship experiences; liabilities of the personnel involved; the identification and selection of interns; the coordination and supervision of interns; and the identification of potential learning stations.

Many individual entrepreneurs, agencies, and industries are very interested and supportive of the internship approach to learning, and they are interested in cooperating with the

university and department. It certainly behooves the university to secure adequate finances and personnel to implement the program and then to supervise, revise, and up-date practices related to the program.

General Program Policy

The formulation of basic program policies and guidelines is essential for the conduct of a departmental internship program. These policies become the basis for decision-making, and they help fix specific program responsibilities to various persons. The formulation of these basic policies and guidelines must include the opinions of representatives of the department faculty and staff and employers who will be providing the learning experiences. Some basic policies and guidelines for our departmental internship program to provide students with occupational experience opportunities follow:

1. The Department will provide a field experience program which involves placement in occupational positions for planned experiences in specified responsibilities, duties, and tasks.
2. Students, undergraduate or graduate, will be permitted to enroll for credit in agricultural education. If credit becomes possible in some other college departments, such hours could be a part of the technical agricultural requirement for certification.
3. The student's work experience will be under the supervision of the departmental coordinator and a local teacher of vocational agriculture or other person appointed by the department to guide and assist the student in securing the most needed experiences.
4. Employment experience will be provided on farms and

in agricultural business establishments under cooperative arrangements with the Agricultural Education Department.

5. Students may receive compensation for employment depending upon the nature of the experience and the agreement with the employer. Student compensation should not necessarily be a condition of the occupational placement.
6. Student placement for occupational experience may take place as a solid time block or may encompass an accumulation of days or weeks to equal some minimum total for a certain amount of credit.
7. In order that a proposed occupational experience placement may be determined appropriate, students must have declared their intent to teach in a specific taxonomy area prior to enrollment.
8. Enrollment for occupational experience should be open to any student beyond the freshman year providing a declaration of taxonomy area for certification has been made.
9. Students should develop plans for occupational experience placement with their departmental advisor, the departmental coordinator of field experience, the cooperating employer, and the local supervising person.
10. Student reports which analyze the tasks associated with employment and consider appropriate related instruction for high school students may be planned with the student advisor for additional credit.
11. The Department program for occupational experience should be developed with the guidance of personnel from the agricultural employment field and teachers of various taxonomy areas.

Operational Practices

A variety of practices have been employed in the operation of the internship program in the Department of Agricultural Education. Described in the following sections are the operational practices of the program.

Internship Program Information

Information regarding an internship program and its purposes and objectives needs to be presented to many publics. Information regarding the internship program in the Department of Agricultural Education was presented to undergraduate students, teachers of vocational agriculture, university faculty and staff members, and potential employers.

Undergraduate students were informed of the internship program through their advisors and through presentations made in Agricultural Education 200, the initial course in the Department curriculum. An information sheet describing the program which was distributed to students may be found in Appendix A (pages A-1, A-2). It was perceived that the most opportune time to meet with the Agricultural Education 200 class was during the session in which vocational agriculture teacher certification requirements were being discussed. In addition to the program information sheet which was distributed, slides and pictures of previous interns in various work settings were useful in describing the program. Undergraduate students are also informed of the internship program during their attendance at the Agricultural Education Exploratory Meeting. This is one of the optional requirements freshman students interested in agricultural careers are required to complete in the agricultural survey course, UVC-100. Former interns provide an additional source through which many students may become

acquainted with the internship program.

Currently employed teachers of vocational agriculture received information regarding the internship program from four sources. Teachers were initially made aware of the program with a presentation at the Ohio Vocational Agriculture Teachers Annual Conference. Communication to teachers was also made through articles in the "Ohio Ag. News" and by a letter from the Department. Advise and counsel regarding the internship program was also provided by the state supervisors of vocational agriculture and by faculty and staff in the Department of Agriculture Education.

Information regarding the internship program was presented to potential employers through a variety of sources. Presentations concerning the program were made at board of directors or executive committee meetings of several state-wide agricultural agencies such as the Grain, Feed, and Fertilizer Dealers Association of Ohio. Personal contacts were also made with the executive officer of such agencies as the Ohio Forestry Association, the Farm and Power Equipment Retailers Association, the Ohio Nurseryman's Association, the Ohio Parks and Recreation Association, the Ohio Veterinary Medical Association, Columbus Allied Florists, Ohio Farm Bureau Association, the Ohio Department of Natural Resources, and the Federation of Soil and Water Conservation Districts. Numerous contacts were made with potential employers suggested by various persons such as local vocational

agriculture teachers, county extension agents, and artificial insemination technicians.

Application for Internship Experience

Students desiring to participate in the internship program are required to make application for the program to the program director (see Appendix A, p. A-3). The applicant is required to provide information concerning past work experiences (Appendix A, pp. A-4, A-5), educational courses completed, and major work activities in which the student desires to participate. Additional information regarding the student's course schedules and other data necessary for arranging internships is obtained at the time of application.

Assessment of Technical Competence

The purpose of the internship program is to provide opportunities for students to develop new and/or up-date technical agricultural competencies. As such, it is necessary to determine the competencies in which the person currently exhibits proficiency and what competencies need to be developed and/or up-dated through internship experiences. The students majoring in Agriculture Education are asked to complete the Self-Assessment Inventory of Proficiency for the taxonomy area in which they desire certification. The Self-Assessment Inventory of Proficiency for the seven taxonomy areas appears in Appendix A (pp. A-6 through A-66). The information obtained through the Self-Assessment Inventory of Proficiency profile regarding technical competence is verified by

contacting former employees and/or others who are familiar with the student's previous work experiences. Additional verification of technical competence is obtained during an interview between the student and the program director.

Interviewing Internship Applicants

After the applicant has supplied the necessary information, a personal interview is scheduled with the program director. It is the responsibility of the director to examine the person's personal qualifications, needs, and future goals. The following are typical questions that are helpful for interviewing internship candidates.

1. Why do you want to teach vocational agriculture?
2. What occupational positions would you like to hold 5, 10, or 15 years from now?
3. What are your reasons for wanting to be placed on an occupational internship?
4. Do you have any ideas regarding the position or type of work setting in which you would like to be placed?
5. What has been your past work experience? What are the major areas in which you believe you are occupationally competent?
6. Do you see any areas in which you do not have adequate occupational competence?
7. What are some of the major areas of work you would like to be involved with while you are on internship?
8. Are there any special needs or concerns that will need to be considered in developing an internship? (Information will need to be obtained regarding housing, transportation, or medical and physical problems.)

During the interview special attention should be given

to an evaluation of the person's attitude toward the role of an employee in a learning situation. An assessment of the person's capability to accept constructive criticism and to cooperate with other persons must be made.

Selecting Interns

Upon completion of the interview and the collection of necessary background information, the program director must make a decision regarding which students are to be accepted into the internship program. Selection of interns should be determined on the basis of the applicant's qualities and the potential for benefiting through an internship experience. In addition to receiving approval from the program director based on the qualifications of the student, the following criteria must be met before the student is accepted into the Agricultural Education Department internship program:

1. The student must have completed Agricultural Education 200, the introductory course in the Department's curriculum.
2. The student must be a declared major in the Department of Agricultural Education. In some cases students are dual majors; wherein, they are majoring in Agricultural Education and other areas such as Horticulture, Animal Science, Forestry, or Natural Resources.
3. The student must have selected and declared the vocational agriculture taxonomy area in which certification is desired as a vocational agriculture teacher.

Selecting Training Stations

During the initial interview with the student, and based on an assessment of the student's level of proficiency,

potential areas for skill development through internship experiences are identified. This information is then utilized in contacting potential employers who may be able to provide the types and varieties of experience needed by the intern. As much information should be obtained as possible from a variety of sources concerning the employment station to assess the potential value of the placement for both student and employer.

The program director and the employer or his designated representative should meet for the purpose of reviewing the overall purpose of the internship program. A brief information sheet or brochure describing the internship program and the responsibilities of various personnel in the operation of the program should be provided the employer. Once the program has been explained to the personnel in the industry, a favorable response should be solicited. In some instances the potential training station will not be suitable, and an alternate station will need to be identified. The following criteria for the selection of training stations have been useful for evaluating potential employment situations for internships:

1. The employers must be able to provide work experiences in the specific areas of agriculture needed by the student-intern.
2. The employers must be able to provide the variety of experiences needed by the intern. The work experience opportunities must not be repetitive in nature. The employers should be able to provide a wide variety of direct experiences associated

with the occupation.

3. The employers must be able to provide work experience directly related to the taxonomy area in which the intern will be certified. That is, people planning to be certified in production agriculture must be placed on farms.
4. The employers must be willing and have sufficient time to provide supervision of the intern. He must be willing and have the patience needed to instruct the intern regarding the performance of agricultural operations.
5. The employers must have a good reputation in the community. If the employer is a farmer, he must be considered by other farmers as operating a quality farm business and following ethical business procedures.
6. The employers must be able to provide safe working conditions for the intern.
7. The employers must be able to provide the number of hours of work experience needed by the intern.
8. The employers must have up-to-date facilities and equipment. The size of operation must be large enough so the intern is exposed to work situations typical of today's agricultural businesses.
9. The employers should be capable of providing remuneration commensurate with the experience and qualities of the student learner. Adherence to the provisions in the Fair Labor Standards Act of 1938 as amended regarding compensation is essential.
10. The employers must make provisions for providing workmen's compensation for the student on internship.

It is essential that the program coordinator during his job development activities give due consideration to the criteria and select training stations which meet the criteria.

Placing Students

When an acceptable learning center has been identified

and the employer indicates interest in employing a particular intern student, an interview between employer and student is arranged. During the interview the employer and student must determine whether the employment in the learning center would be beneficial to each. Should both agree that such employment would be beneficial to both, procedures are initiated to develop the detailed internship training plan and to finalize the internship agreement. One of the most important components of the internship program is the development of the detailed written internship training plan. The development of the training plan is an activity that requires the involvement of the student, employer, and program coordinator. Through the training plan the employer becomes aware of the goals of the intern and the types of work activities that will be required for the student to attain his/her objectives. Through the training plan the student makes a firm commitment to develop specific technical agricultural competencies required for success as a teacher of vocational agriculture. The development of a training plan assists in making the experience an educational learning process rather than a repetitive work experience situation.

The detailed internship training plan then becomes a part of the internship agreement which is signed by the employer, student, and coordinator. The internship agreement form and examples of detailed training plans may be found in Appendix B (pp. B-1 through B-11). The agreement represents

a mutually agreed upon statement of understanding regarding the types of work experiences to be performed, the duration of the internship, the compensation to be provided, and the hours of work. The agreement sets forth the responsibilities of all involved.

Supervising and Coordinating Internships

Supervised visits to the training stations and the related coordination activities represent a very essential component of the internship program. The specific reason for making supervised visits will vary, but to be most productive these visits should directly or indirectly benefit the student-intern. The frequency of these visits will depend on the employer, student-intern, the work being performed, and the time of year. As a general rule, it is important for the program coordinator to make an initial supervised visit to the training station within the first two weeks the student is employed. An early visit by the program coordinator will be helpful in identifying potential problems, developing good relations between the university and the employer, and identifying needed changes to be made in the training plans. After the initial visit, a supervised visit should be made at least once per month, although some variations will be necessary. During these visits, the program director should meet with the employer and student-intern. Visits to the training station throughout the internship are necessary to:

1. Determine if the activities identified in the

training plan are being performed.

2. Make appropriate changes in the training plan.
3. Evaluate the intern's progress on the job.
4. Assess the intern's ability to communicate and work with others.
5. Develop good relations between the university and the employer for the development of future internships.
6. Evaluate the student's overall technical agricultural skills and capabilities.
7. Counsel and advise the student intern regarding career aspirations and capabilities and potentialities.
8. Coordinate the educational program at the university with the work experiences being performed in agricultural businesses.

Supervised visits by the program coordinator are an excellent promotional activity for the internship program.

Such visits provide an excellent opportunity to solicit the participation of employers for future internship placements. Visits with employers provide an excellent opportunity to secure materials that can be used in promotional activities related to the internship program.

Involvement of Local Vocational Agriculture Teachers

A somewhat unique aspect of the internship program conducted through the Department of Agricultural Education is the involvement of the local teachers of vocational agriculture. Many of our student-interns are placed in employment situations in urban and rural communities where local high school programs of vocational agriculture are offered. Since the

interns completing our program are interested in teaching vocational agriculture, it was the opinion of the consulting committee to the project that some means of communications should be established between the Department of Agricultural Education student-intern and the local teachers of vocational agriculture. After consultation with local teachers of vocational agriculture, it was decided to involve the local teacher of vocational agriculture in supervising the student's internship work experience. It was also decided to involve the student-intern in the activities of local programs of vocational agriculture. A stipend of \$75 per quarter was provided local teachers for assisting in the supervision of the student's internship experience and for involving the intern in the activities of the local vocational agriculture program. The local teacher involved the student-interns in numerous activities of the local vocational agriculture program including such activities as:

1. Assisting in conducting supervised visits to high school students and adult and young farmers.
2. Participating in the activities of the local FFA chapter such as monthly meetings and the annual FFA recognition banquet.
3. Participating in the Ohio Young Farmers Association annual tour.
4. Attending community agricultural meetings such as fair board meetings, county agricultural society meetings, livestock breed association meetings, and soil conservation service meetings.
5. Attending adult farmer meetings at the local school.

6. Working in the school horticultural greenhouses or on the school farm with the high school students.
7. Assisting in the county and state fair activities.
8. Attending departmental advisory committee meetings.

Essentially all of the student-interns that participated in the activities of the local vocational agriculture program considered it a very worthwhile experience. It provided the students an opportunity to experience some of the many activities for which the local teacher is responsible.

The local vocational agriculture teacher serving as an intern coordinating teacher has a very important role in the internship program. His role in the program will help further develop the reputation and image of the local vocational agriculture program in the community. His role will also ensure that technically competent persons will become vocational agriculture teachers in the future, and the dignity and reputation of the vocational agriculture teaching profession will be expanded. The role of the local vocational agriculture teacher in the program is outlined below:

1. Assisting in Selecting Agriculture Training Stations.
 - a. Assist in evaluating potential training stations.
 - b. Assist in identifying potential training stations.
 - c. Assist in describing the program to employers.
 - d. Identify appropriate personnel to contact.
2. Assisting in Placing Student-Interns.
 - a. Review background of student-intern.
 - b. Assist in enlisting the participation of cooperating employers.
 - c. Assist in finding housing for the intern when necessary.

3. Assisting the Intern in Adjusting to the Work Situation.
 - a. Counsel with the employer and intern when necessary.
 - b. Review job progress with employer and student.
4. Coordinating Training of Intern.
 - a. Review training plans with the intern.
 - b. Consult with employer regarding needed changes in work experiences.
 - c. Make suggestions regarding changes in the training plan.

Monitoring Internship Activities

The operation of an internship program requires the use of various reports to monitor the activities that occur. The intern must maintain records to monitor the daily activities that contribute to the accomplishments of the student's goals. The information provided through various records and reports is useful to the program director in assessing the intern's level of accomplishment, personal adjustment to the occupational setting and communications and human relations abilities.

The daily work log is used by the student-intern to provide summary reports to the program coordinator which provide information necessary to assess the progress of the intern. The daily work log or record is maintained by the student-intern. The student is requested to provide information regarding the major work activities performed during the day and the total number of hours worked. An example of the daily work log may be found in Appendix B (p. B-13).

A tenth day progress report is completed by the student (Appendix B, p. B-14). The information provided by this report is useful in identifying problems students may be encountering during the early phases of the internship. The information provided also is helpful in determining the types of work activities the students are becoming involved with.

The intern students also submit a monthly activity report (Appendix B, p. B-15) which summarizes the major activities the students have been involved with during that reporting period. This report is completed at the end of each four weeks and a copy is provided the employer, student, and program coordinator. A component of the monthly activity report requires the student-intern and employer to identify five new skills the student has developed during the reporting period and to assess the intern's level of proficiency for those skills.

During the middle of the internship the employer is requested to complete a confidential progress report which is forwarded to the program coordinator (Appendix B, p. B-16). The information provided on this report in addition to comments of the employer obtained during supervised visits, provides information that is helpful in counseling with the intern regarding job behaviors and technical competence.

Evaluation of Internship Experiences

Some form of evaluation is essential to determine the value of the internship experience to the student. Evaluation

represents a systematic review of the student's performance with regard to the objectives. The reports submitted by the interns and the visits by the program coordinator with the interns and employers provide continuous feedback regarding the adjustment to the work situation and the technical skills being developed. It has been our experience that a final evaluation meeting with the employer provides valuable information regarding the employer's perceptions of the intern's level of technical agriculture proficiency. During this evaluation meeting the employer may also provide helpful suggestions that may be incorporated into future internships. In addition to this final evaluation meeting the students are required to update the Self-Assessment Inventory Profile (Appendix A, pp. A-6 through A-66) for the taxonomy areas he/she had completed prior to being placed on internship. In this manner an up-to-date profile of the student's occupational competency is continuously available.

Credit for Internship

Much discussion exists regarding the allocation of university credit for occupational internships. It is our belief that university credit is justified for several reasons. The occupational internship is a part of, and not a part from, the pre-service and in-service program in the Department of Agricultural Education. Therefore, students completing the occupational internship program should receive university credit. Additionally, the program is under the

direct supervision of the Department, and services are provided by both the Department of Agricultural Education and The Ohio State University.

The amount of credit to be awarded for internship experiences is based on both a quantitative and qualitative aspect. The number of hours worked and the nature and variety of experiences are considered when awarding university credit. The quality of the experiences is assessed by the program coordinator through supervised visits and conferences with the student-intern and employer. The development of a detailed internship training plan assists in planning for an excellent variety of experiences. The quantitative aspect involves the number of hours of work completed. The general guideline used for determining credit is to award one hour of university credit for each 100 hours of approved supervised work completed. Using that guideline, a student working full-time during a quarter generally will earn five hours of university course credit. That credit is graded either S (satisfactory) or U (unsatisfactory). Undergraduate students completing internships enroll in Agricultural Education 280.04, and graduate students enroll in Agricultural Education 684.40 for the desired number of hours. The students receiving credit for occupational internship experience may use such credits for meeting their technical agriculture elective requirements in their respective programs.

SUMMARY

The experiences with the Departmental internship program during this initial year of development and implementation amplify the importance of this approach to the development of the prospective teacher's and the currently employed teacher's technical agriculture competence. A majority of the interns expressed that, for the most part, the occupational experiences gained through the internship proved very valuable. Most of the interns perceived the internship experiences as adding much relevance to the knowledge they had gained in their university courses. In some instances student-interns perceived that employers were too busy to take the time needed for adequate supervision and instruction. In several instances student-interns did encounter problems concerning compensation for work performed.

Most of the employers were very much impressed with the student's attitudes toward working in various businesses and their willingness to learn. Some of the employers were concerned with the student's limited prior agricultural experiences. This lack of previous experiences did require the employers to spend a significant amount of time instructing and supervising the student in various job situations. During peak business periods, the amount of time required by the employer for instruction and supervision may be somewhat of an annoying aspect from the viewpoint of the employer. However, in spite of the concerns voiced by employers, they

believed the internship approach, which emphasizes learning by doing, is one of the most effective forms for developing technical agricultural skills.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions and recommendations were formulated based on the experiences of the 52 student-interns and the employers that were involved with the program during the past year.

Conclusions

1. Many valuable occupational experiences may be acquired through structured internship work experiences in agricultural businesses. These experiences add much relevance and meaning to the student's university program in becoming prepared as a teacher of vocational agriculture.
2. The placement of student-interns in agricultural businesses facilitates the continued development of closer ties and relationships between the university and agricultural businesses.
3. The nature of occupational experiences available to student-interns in many agricultural businesses are seasonally variable. In agricultural businesses the scope or breadth of experiences in which the interns become involved is determined to a significant degree by the time of year the individual is placed on internship.
4. Agricultural businesses and personnel in such businesses are very interested and supportive of the occupational internship program. Personnel in the businesses are willing to make as many resources available, within reason, to the students as are necessary to complete successful internships.
5. Extensive preliminary planning for the placement of interns is essential. Most employers need two

or three months of "lead time" to prepare for having an internship student as an employee.

Recommendations

The following recommendations are forwarded as suggestions for the continued refinement of the practices and procedures necessary for the operation of a cooperative university-industry occupational internship program.

1. A cooperative university-industry occupational internship program should be permanently established in the Department of Agricultural Education as a part of the pre-service and in-service teacher education program.
2. A person with full faculty status be assigned with sole responsibility for the coordination of the internship program. With the employment of a full-time program coordinator attention should be given to the continued expansion of the program.
3. A sufficient budget for the operation of the internship program should be established. This budget should be sufficient to cover activities related to identification of training stations, recruitment of employers and interns, and supervision and coordination activities.
4. Emphasis should be given to the placement of more students during Autumn, Winter, and Spring Quarters in addition to Summer Quarter. The seasonality of work experiences in many agricultural businesses necessitates the involvement of student-interns during all seasons so that students may become involved in all operational phases in the businesses.
5. An advisory or consulting committee should be established for the internship program. The committee should be composed of both educators and industry and business personnel.
6. An improved procedure for screening and selecting participants must be developed. Students selected for internship experiences must be able to benefit from the experiences as related to the student's goals and objectives.

7. An internship orientation session should be conducted with students prior to their placement in training stations. This orientation session should emphasize the student and employer responsibilities and expectations.
8. Potential avenues should be identified for obtaining released time from college programs to participate in internship work experiences. This will aid in having students available for needed internship experiences during essential times.
9. Flexibility needs to be built into the college curriculum and schedule so students may participate in the internship program without extending their college program.
10. Students should enroll for internship credit, Agricultural Education 280.04 or 684.40, during the quarter the internship is being completed.
11. Students preparing to be teachers of vocational agriculture placed on occupational internships should become involved in the activities of the local programs of vocational agriculture. The involvement of the student in the activities of the local program will provide student-interns the opportunity to experience the importance and total responsibilities of the vocational agriculture teacher.

APPENDIX A

APPLICATION MATERIALS

AND

ASSESSMENT FORMS

INTERNSHIP INFORMATION

1. GENERAL CONSIDERATIONS:

- a. Internship is a cooperative program between the Agricultural Education Department at The Ohio State University and approved employers who furnish facilities and instruction where students may acquire the technical agricultural skills and knowledges needed to become successful vocational agriculture teachers.
- b. The agreement between the employer, the student, the coordinating vocational agriculture teacher, and the Agricultural Education Department at The Ohio State University is for the internship only.
- c. In cases where problems arise between employer and student, a telephone call should be made immediately to the coordinating vocational agriculture teacher and the Agricultural Education Department coordinator.
- d. In cases where problems arise and cannot be rapidly resolved by those involved, the agreement may be terminated for sufficient reasons by the employer, the student, or coordinating vocational agriculture teacher. A one week notice (preferably in writing) should be given.

2. STUDENT RESPONSIBILITIES. The student agrees to:

- a. Conform with the normal work hours of the establishment, including overtime when suggested.
- b. Report to work on time. This is essential!
- c. Perform the work directed by the employer.
- d. Always speak well of his employer, keep business matters strictly confidential, and work in the best interests of the firm.
- e. Keep neatly and appropriately dressed and well groomed.
- f. Be courteous to all.
- g. Request permission from both the employer and the coordinating vocational agriculture teacher before taking time off.

Internship Information

- h. Submit reports promptly.

3. EMPLOYER RESPONSIBILITIES. The employer agrees to:

- a. Employ the student for the entire period agreed unless terminated for sufficient reasons. (See 1-d above.)
- b. Provide pay and/or other benefits as per the agreement. Increases in pay and/or benefits may be given at the employer's discretion.
- c. Give the student the opportunity to work on as many different jobs as possible in order to acquire and practice various agricultural skills.
- d. To provide the necessary supervision needed by the student to perform the work in a satisfactory manner.
- e. To counsel with the student, answer questions, and discuss methods and operations.
- f. To involve the student in as much of the management decisions as possible.
- g. To provide workmen's compensation for the employee.
- h. To notify the coordinating vocational agriculture instructor and the Agricultural Education Department coordinator immediately by phone, on any cause of dissatisfaction or of misconduct on the part of the student.

4. COORDINATING VOCATIONAL AGRICULTURE TEACHER RESPONSIBILITIES. The coordinating vocational agriculture teacher agrees to:

- a. Visit the training facility at intervals to counsel with the student and employer, discuss the student's progress, and provide advice relative to the student's planned intern work experiences.
- b. Work with all involved to promote cooperation between the employer, the student, and the Agricultural Education Department.
- c. Work with the intern and involve him in activities of the local vocational agriculture department and the local agricultural economy. These activities should not interfere with the working agreement between the student and the employer.

AGRICULTURAL EDUCATION DEPARTMENT
The Ohio State University
Columbus

APPLICATION FOR INTERNSHIP

Internship Program (Check)

☐ Production Agriculture	☐ Agricultural Products (Food Processing)
☐ FBPA Farm Management	☐ Horticulture
☐ Small Animal	☐ Agricultural Resources
☐ Agricultural Business, Supplies, and	☐ Environmental Protection
☐ Services	☐ Forestry
☐ Agricultural Mechanics	

Student Name _____ Date _____

Home Address _____ Phone() _____

(Complete following if known)

Address While on Internship _____ Phone() _____

Firm or Name of Employer _____

Address of Employer _____ Phone() _____

Dates of Employment _____ to _____

Activities in which student desires to participate (use extra page if necessary)

Daily hours of work _____ a.m. to _____ p.m.

Days per week _____

Remuneration employer is to pay this student _____ per hr. wk. mo.

Other Information _____

Indicate Major if not Agr. Educ. _____ Academic
Advisor _____

Student Signature _____

OCCUPATION EXPERIENCES

Please List Your Occupational Experience Since Age 16

WORK EXPERIENCE (Firm or Company)	OCCUPATION	TOTAL MONTHS	DATES From To

A-4

INTERNSHIP REFERENCES

Student's Name _____

Please identify three references potential employers may contact. These references should have some knowledge of your technical competence and your work habits. It is recommended you contact the people you are using as references and receive their approval to use them as references.

Reference 1.

NAME _____ TITLE _____
FIRM _____
ADDRESS _____
PHONE _____

Reference 2.

NAME _____ TITLE _____
FIRM _____
ADDRESS _____
PHONE _____

Reference 3.

NAME _____ TITLE _____
FIRM _____
ADDRESS _____
PHONE _____

INSTRUCTIONS

The attached Self-Assessment Inventory of Proficiency for the taxonomy area in which you desire certification will help in designing your internship program. Please use a pencil to complete the inventory. Read each of the tasks on the inventory profile and place a check mark (✓) in the appropriate column according to the following guidelines.

1. Place a check in the left column, "Can Perform Without Supervision", if you can perform the task and could do so for an employer with only a few moments of supervision.
2. Place a check in the middle column, "Can Perform With Supervision", if you can perform the task and could do so for an employer with several hours of supervision.
3. Place a check in the right column, "Can Not Currently Perform", if you can not currently perform the task.

When you have completed the form return it to the internship program director and schedule an appointment for the purpose of designing your internship program.

Student _____

Date _____

SELF-ASSESSMENT INVENTORY OF PROFICIENCY

AGRI-BUSINESS, SERVICE AND SUPPLY

AGRI-BUSINESS, SERVICE AND SUPPLY TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
FEEDS			
<u>Preparing Feed Mixtures</u>			
Identify feedstuffs _____			
Interpret preparation instructions _____			
Weigh feedstuffs _____			
Grind, mix and blend feed _____			
Draw off bulk feeds _____			
Draw off and bag feed _____			
Clean feed preparation equipment _____			
Adjust processing equipment for various processes _____			
<u>Receiving Supplies and Feedstuffs</u>			
Operate weigh scales _____			
Check merchandise against shipping slip _____			
Check quality of materials _____			
Unload materials _____			
Take grain samples and test _____			
<u>Storing Supplies and Feedstuffs</u>			
Clean and prepare storage areas _____			
Stack materials _____			
Control temperature and ventilation in storage areas _____			
Check for "hot spots" in storage areas _____			
Rotate stored supplies _____			
<u>Delivering Feeds and Supplies</u>			
Load and unload bagged and bulk feeds and supplies _____			
Operate pickup trucks _____			
Operate dump, bulk and flat-bed trucks _____			
Drop off customer invoices _____			

SELF-ASSESSMENT INVENTORY (Continued)

AGRI-BUSINESS, SERVICE AND SUPPLY TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Maintaining Feed Mill Buildings and Structures</u>			
Clean floors and work areas _____			
Clean truck scales _____			
Repair doors, bins and drop spouts _____			
<u>Performing General Office Work</u>			
Use telephone _____			
File _____			
Deposit daily receipts _____			
<u>Selling Feeds and Supplies</u>			
Determine customer's needs _____			
Make sales transactions _____			
Use telephone _____			
Take customer orders _____			
Write-up sales slip _____			
Use credit plans _____			
Price products _____			
Stock supplies _____			
Label materials _____			
Set-up displays _____			
Demonstrate items for customers _____			
Interpret legal feed regulations _____			
Interpret legal chemical sales regulations _____			
Use cash register and adding machine _____			
Interpret feed tags, labels and feeding charts _____			
Work with farmers in developing feeding programs _____			
Take inventory and use inventory system _____			
<u>FERTILIZERS</u>			
<u>Preparing Fertilizers</u>			
Identify fertilizer materials and forms _____			
Interpret blending instructions _____			
Weigh ingredients _____			
Break down blends for various weight amounts _____			
Adjust blending and processing equipment _____			

SELF-ASSESSMENT INVENTORY (Continued)

AGRI-BUSINESS, SERVICE AND SUPPLY TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Mix and blend fertilizers			
Clean processing equipment			
Record input and output information			
<u>Storing and Warehousing Fertilizers</u>			
Clean and prepare storage areas			
Store bulk and bagged materials			
Rotate stored materials			
Unload liquid fertilizers into storage tanks			
Transfer NH ₃			
Move rail cars			
<u>Delivering Fertilizers</u>			
Load and unload bagged fertilizers			
Load fertilizer buggies			
Transfer NH ₃ to nurse tanks			
Operate delivery trucks			
Complete delivery forms			
<u>Applying Fertilizers for Customers</u>			
Calibrate and adjust application equipment			
Determine when to apply fertilizers			
Spread fertilizer			
Mix fertilizer solutions			
Identify signs of fertilizer injury			
Operate application equipment			
<u>Maintaining Equipment and Vehicles</u>			
Service battery			
Store equipment			
Replace bearings and seals			
Service spark plugs			
Service cooling system			
Paint equipment			
Grease and oil equipment			
Service air compressors and pressure vessels			
Service pumps			

SELF-ASSESSMENT INVENTORY (Continued)

ACRI-BUSINESS, SERVICE AND SUPPLY TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Service electric motors _____			
Service belts and chains _____			
<u>Selling Fertilizers</u>			
Determine customer's needs _____			
Make sales transactions _____			
Use telephone _____			
Take customer orders _____			
Write-up sales slips _____			
Use credit plans _____			
Price fertilizers _____			
Interpret legal regulations _____			
Use cash register and adding machine _____			
Interpret fertilizer labels _____			
Take inventory and use inventory system _____			
<u>CHEMICALS</u>			
<u>Applying Chemicals</u>			
Complete application reports _____			
Identify insects, diseases and weeds and damage caused _____			
Determine which chemicals to apply _____			
Determine when to apply chemicals _____			
Mix chemical solutions _____			
Interpret chemical labels and charts _____			
Operate chemical application equipment _____			
Calibrate and adjust application equipment _____			
Identify chemical injury to plants _____			
Obtain applicator's permit _____			
Clean application equipment _____			
<u>Storing and Warehousing Chemicals</u>			
Clean storage areas _____			
Rotate stored materials _____			
Label materials _____			

SELF-ASSESSMENT INVENTORY (Continued)

AGRI-BUSINESS, SERVICE AND SUPPLY TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Selling Chemicals</u>			
Identify customer needs _____			
Make sales transaction _____			
Use telephone _____			
Take customer orders _____			
Write-up sales slip _____			
Use credit plans _____			
Price chemicals and supplies _____			
Interpret chemical labels _____			
Interpret legal regulations _____			
Take inventory and use inventory system _____			
<u>Maintaining Equipment and Vehicles</u>			
Service battery _____			
Prepare equipment for storage _____			
Replace bearings and seals _____			
Service spark plugs _____			
Service air cleaner _____			
Service cooling system _____			
Service tires _____			
Paint equipment _____			
Grease and oil equipment _____			
Adjust belts _____			

Student _____
Date _____

SELF-ASSESSMENT INVENTORY OF PROFICIENCY
AGRICULTURE-INDUSTRIAL EQUIPMENT

AGRICULTURE-INDUSTRIAL EQUIPMENT TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
PARTS			
<u>Performing General Office Work</u>			
File _____			
Write notes, letters and memos _____			
Record information _____			
<u>Selling Parts and Other Merchandise</u>			
Interpret customer's descriptions _____			
Use catalogs _____			
Complete sales transactions _____			
Use telephone _____			
Take customer orders _____			
Write-up sales ticket _____			
Price parts and merchandise _____			
Stock parts and merchandise _____			
Label merchandise _____			
Set-up displays _____			
Demonstrate merchandise _____			
Use cash register and adding machine _____			
Use credit plan _____			
Use warranty plan _____			
Supply parts to service department _____			
Inspect damaged parts to identify possible problems _____			
<u>Inventorying and Controlling Parts</u>			
Take inventory _____			
Use card inventory system _____			
Identify high and low activity items _____			
Identify obsolete parts for removal from inventory _____			
Establish re-order points (ROP) _____			
Flag inventory cards _____			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURE-INDUSTRIAL EQUIPMENT TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Receiving Parts</u>			
Check parts against shipping receipt _____			
Unpack shipments _____			
Tag parts _____			
Bin parts _____			
Process shortages, loss or damage claims _____			
<u>Using Catalogs, Price Lists and Operator's Manuals</u>			
Locate proper manuals _____			
Interpret sketches and diagrams _____			
Interpret parts numbers (prefix, body and suffix) _____			
Determine if parts have been superceded by new or modified parts _____			
Insert supplements and revisions in catalogs and manuals _____			
<u>Ordering and Returning Parts</u>			
Pick up parts at other locations _____			
Determine number of parts needed _____			
Prepare pre-season or seasonal orders _____			
Submit orders for breakdown or emergency repairs _____			
Prepare monthly parts order _____			
Use computer parts system with regional office _____			
Return parts to shipping depot _____			
<u>SET-UP AND DELIVERY</u>			
<u>Receiving Equipment</u>			
Unload shipments _____			
Check equipment for damages _____			
<u>Assembling Equipment</u>			
Interpret assembly diagrams _____			
Arrange parts and hardware for assembly _____			
Follow assembly procedures _____			
Check equipment for proper operation _____			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURE-INDUSTRIAL EQUIPMENT TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Adjust equipment controls			
<u>Pre-Delivery Servicing of Equipment</u>			
Grease and oil equipment			
Make initial adjustments			
Operate equipment			
Re-check equipment			
<u>Picking-Up and Delivering Equipment</u>			
Load and unload equipment			
Establish delivery or pick-up routes			
Describe general maintenance and operation procedures to customers			
Complete delivery reports			
<u>SERVICE</u>			
<u>Diagnosing Problems</u>			
Interpret troubleshooting procedures in manuals			
Troubleshoot tractor engine and component systems			
Use compression tester			
Use electrical system troubleshooting equipment			
Use oscilloscope and engine analyzer			
Use hydraulic system tester			
Run dynamometer test			
<u>Performing General Maintenance Work</u>			
Change oil and filters			
Service air cleaner			
Adjust carburetors			
Adjust clutch pedal free travel			
Grease and oil equipment			
Service tires and tracks			
Adjust belts and chains			
Service battery			
Repack bearings			
Replace bearings and seals			
Service spark plugs and plug wires			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURE-INDUSTRIAL EQUIPMENT TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Service fuel strainers, filters and sediment bowl _____ Bleed diesel fuel system _____			
<u>Repairing and Maintaining Brakes</u>			
Adjust mechanical brakes _____			
Adjust and bleed power brakes _____			
Inspect brake disk, backing plate, pistons and pressure plate _____			
Replace lining, springs and pins _____			
Install shoes _____			
<u>Repairing and Maintaining Wheels, Tires and Tracks</u>			
Adjust track tension _____			
Patch tubes _____			
Adjust wheel width _____			
Inspect or replace bearings and seals _____			
Install track _____			
Load tires with liquid _____			
<u>Repairing and Maintaining the Steering System</u>			
Bleed power steering system _____			
Adjust toe-in, drag link and turning angle _____			
Install ball joints and tie rods _____			
Replace bearings, gears and knuckles _____			
Install power steering motor and valve assembly _____			
<u>Repairing and Maintaining the Air Conditioning System</u>			
Discharge and charge system _____			
Add oil to compressor _____			
Install or adjust drive belts _____			
Clean air filters _____			
Install compressor, evaporator or expansion valve _____			
<u>Repairing and Maintaining the Power Train</u>			
Adjust gear and shaft end-play and backlash _____			
Adjust shift linkage _____			
Run drag test _____			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURE-INDUSTRIAL EQUIPMENT TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Check parts for wear and breakage Inspect or replace clutch shafts, forks, disks and springs Drain, flush and refill transmission Inspect or replace drive shaft, counter shaft and differential shaft Inspect or replace bearings and seals Pre-load gear train Inspect or replace electric or hydraulic clutch controls Inspect or replace transmission oil pump Replace transmission oil filter Replace gaskets Inspect or replace ring gear, bevel gears and pinion Pull and replace rear axle Test field coil and electromagnetic clutch Separate and rejoin tractor			
<u>Repairing and Maintaining the Hydraulic System</u>			
Bleed hydraulic system or remote cylinders Drain, clean, flush and refill hydraulic system Add hydraulic fluid Read schematic of hydraulic system Troubleshoot hydraulic system Install O-rings, seals and packing Install hoses and tubing Install pump Install various hydraulic system valves Replace hydraulic oil filters			
<u>Repairing and Maintaining the Ignition, Charging, Starting System and Electrical Accessories</u>			
Time engine Repair starter Replace points and plugs Repair electrical wires Read schematic of electrical system Install distributor Install regulator Install solenoid Install generator			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURE-INDUSTRIAL EQUIPMENT TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Make no load test on starter _____ Replace wiring harness _____ Test coil _____ Test condenser _____ Test generator _____ Take voltage drop test _____ Test for grounds or shorts _____ Replace spark plug wires _____ Replace fuses and circuit breakers _____ Replace gauges _____ Replace switches _____			
<u>Overhauling and Maintaining Engines</u>			
Adjust valve clearance _____ Clean engine and parts _____ Deglaze cylinder _____ Grind valves _____ Install head and head gasket _____ Install valve guides _____ Inspect bushings and bearings _____ Inspect and measure valve margins and seats _____ Inspect and measure rod and main bearing tolerances _____ Inspect and measure cylinder bore _____ Inspect and measure piston tolerance _____ Inspect and measure ring tolerances _____ Measure oil slinger run-out _____ Rebore cylinders _____ Reface valve seats _____ Remove and install camshaft _____ Remove and install crankshaft _____ Remove and install cylinder liners _____ Pull engine _____ Install front and rear oil seals _____ Install piston assembly _____ Pull oil pan _____ Install valves _____ Install valve seat inserts _____ Install rocker arm assembly _____ Replace timing chain or gears _____ Remove cylinder ridge _____ Replace bearings or bearing inserts _____			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURE-INDUSTRIAL EQUIPMENT TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Pull flywheel			
Replace ring gear			
Separate and rejoin tractor			
Torque bolts			
Time valve assembly			
<u>Repairing and Maintaining Governor Systems</u>			
Adjust governors			
Remove and install governor or ventilator pump			
Replace governor thrust bearings and weights			
<u>Repairing and Maintaining Oil Lubrication Systems</u>			
Adjust oil pressure			
Clean oil cooler			
Remove and install oil pump			
Remove and install oil cooler			
<u>Repairing and Maintaining the Cooling System</u>			
Backflush cooling system			
Test system for leaks			
Remove and install water pump			
Test thermostats			
Pull and replace radiator			
Replace radiator hoses and thermostats			
Replace fan belt			
Replace pump seals and bearings			
<u>Repairing and Maintaining Gas and Diesel Fuel Systems</u>			
Install carburetor repair kit			
Measure carburetor clearances			
Remove and install diesel fuel pump or gas fuel pump			
Replace injection nozzles			
Replace fuel lines			
Replace fuel filters			
Run manifold vacuum test			
Test diesel injection pump			
Test injection nozzles			
Time injection pump			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURE-INDUSTRIAL EQUIPMENT TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Repairing and Maintaining Non-Power Equipment</u>			
Cut metal _____			
Heat and bend metal _____			
Weld _____			
Service planting equipment _____			
Service spraying equipment _____			
Service harvesting equipment _____			
Service materials handling equipment _____			

Student _____
Date _____

SELF-ASSESSMENT INVENTORY OF PROFICIENCY

AGRICULTURAL RESOURCES

AGRICULTURAL RESOURCES TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
FISH			
<u>Managing Fish in Lakes, Ponds and Streams</u>			
Identify species of freshwater and saltwater fish			
Make a chemical water analysis			
Determine dissolved oxygen level			
Test for water pH level			
Identify water pollutants			
Determine amount of pollutants present			
Determine water temperature			
Observe water turbidity			
Measure water fertility			
Identify algae and weed problems			
Sein fish			
Estimate fish populations			
Use fish traps			
Destroy fish nests to correct for imbalance			
Use fish toxicants for population reduction			
Establish and adjust harvest schedules			
Stock water impoundments and waterways			
Determine fish stocking methods to use			
Plant cover crops in watershed area			
Plant trees and shrubs in watershed area			
Identify cropping system in watershed area			
Apply chemicals to control weeds and algae			
Maintain chemical applying equipment			
Fertilize water impoundments			
<u>Managing Fish in the Hatchery</u>			
Identify various uses of hatchery fish (game, pan, bait and forage)			
Clean brood ponds			
Maintain pH level			
Aerate brood ponds			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURAL RESOURCES TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Fertilize brood ponds			
Drain brood ponds			
Clean raceways and troughs			
Service aerating and pumping equipment			
Service feeding equipment			
Identify fish parasites			
Use materials to control fish parasites			
Use materials to keep predators out of brood ponds			
Feed brood and fry fish and fingerlings			
Stock brood fish			
Maintain spawning containers			
Strip brood fish for eggs and milt			
Measure and count eggs			
Clip fingerlings			
Tag fingerlings			
Transport fish			
Determine stocking rates			
FORESTRY			
<u>Identifying Trees and Other Plants</u>			
Identify from leaf characteristics			
Identify from flower characteristics			
Identify using fruit characteristics			
Identify using twig characteristics			
Identify using bark characteristics			
Identify growth characteristics			
<u>Establishing Trees</u>			
Select varieties to use			
Analyze planting site			
Determine proper spacing			
Determine planting rates			
Prepare site for planting using chemical or mechanical methods			
Transport tree seedlings			
Store seedlings			
Plant seedlings by machine or hand			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURAL RESOURCES TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Improving Timber Stands</u>			
Determine age of trees			
Determine goals of timber stand			
Weed timber stands using mechanical or chemical methods			
Thin timber stands using selection system or row thinning			
Prune trees			
Make pre-commercial and subsequent thinnings			
<u>Controlling Timber Diseases, Insects and Pests</u>			
Identify diseases, insects and pests			
Mix chemicals			
Select proper chemicals			
Apply chemicals			
Maintain chemical application equipment			
Use mechanical means to control diseases, insects and pests			
<u>Preventing and Controlling Fires</u>			
Use fire danger rating systems			
Identify high risk areas			
Build fire breaks			
Maintain fire breaks			
Locate fires			
Build fire line			
Fight fires by back firing or plowing out			
<u>Measuring Timber</u>			
Determine diameter breast height (DBH)			
Determine number of logs in tree			
Use various tree volume tables			
Identify tree defects			
Interpret annual rings			
Interpret maps and aerial photographs			
Survey forest areas			
Cruise timber			
Make continuous forest inventory			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURAL RESOURCES TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Estimate timber value in an area _____			
Mark trees for harvesting _____			
<u>Producing Christmas Trees</u>			
Develop budgets _____			
Select site _____			
Lay out plantation _____			
Select species _____			
Plant trees _____			
Control competitive vegetation _____			
Shear trees _____			
Use colorant sprays _____			
Cut Christmas trees _____			
Grade and label trees _____			
<u>MINE LAND RESTORATION</u>			
<u>Reclaiming Mined Areas</u>			
Analyze soil _____			
Make water tests _____			
Identify erosion problems _____			
Interpret reclamation laws _____			
Identify water and topographical features _____			
Determine potential uses of mined land _____			
Perform rough grading _____			
Prepare seedbed for grasses _____			
Plant trees _____			
Sow grass or crops _____			
Construct diversion ditches _____			
Repair slide damage _____			
Repair stream channels _____			
<u>OUTDOOR RECREATION</u>			
<u>Camping and Picnic Area Activities</u>			
Select a camp site _____			
Set-up camp _____			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURAL RESOURCES TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Cut grass			
Repair camp equipment			
Repair camp ground buildings and structures			
Lay out camp trails			
Select picnic areas			
Control insects and pests			
Clean camp and picnic grounds			
<u>Operating and Maintaining Water-Oriented Recreation Enterprises</u>			
Select swimming areas			
Maintain beach			
Supervise fishing areas and boating areas			
Rent equipment			
Maintain buildings and structures			
Clean fishing and beach areas			
Build boat and dock launches			
<u>Developing Winter Recreation Areas</u>			
Lay out ski trails			
Maintain trails and snow			
Operate ski lift			
Maintain lift			
Patrol slopes			
Mark and clear sled and toboggan trails			
Develop rest areas			
Rent equipment			
Locate snowmobile tracks			
Develop skating areas			
Maintain ice			
<u>Operating Vacation Farms and Riding Stables</u>			
Repair buildings			
Build fence			
Groom horses			
Train horses			
Care for tack			
Schedule activities for visitors			
Mow grass			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURAL RESOURCES TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Feed horses			
Mark and clear riding trails			
WILDLIFE			
<u>Identifying and Managing Wildlife</u>			
Identify upland, waterfowl and protected bird species			
Identify game, fur, protected and nuisance animal species			
Plant cover and food crops			
Identify plants and trees			
Develop nesting areas			
Release birds and animals			
Interpret laws and regulations			
Trap and re-release animals			
Tag and band birds and animals			
<u>Determining Wildlife Populations</u>			
Take true census			
Estimate populations from sampling, indices, recapture or hunting methods			
Operate optical instruments			
Operate acoustical instruments			
Operate radio-tracking instruments			
Use radioisotopes			
Mark birds and animals by color, mutilation or tagging			
Take field notes			
Analyze population data			
Evaluate food supply by clipping method or stems and seeds per sample acre			
Evaluate cover density using photographic, visual and stems per sample acre methods			
<u>Propagating Game Birds</u>			
Identify potential sources of eggs or chicks			
Develop budgets			
Incubate gamebird eggs			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURAL RESOURCES TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Control ventilation and temperature in brooding and growing houses			
Feed birds of various stages of growth			
Water birds			
Maintain brooding houses			
Manage brooder			
Identify common contagious and non-contagious diseases			
Control diseases			
Identify internal and external parasites			
Control parasites			
Disinfect buildings and equipment			
Clean brooding and growing houses			
Determine when birds are ready for release			
Catch birds			
Cage and prepare birds for shipment			
SOILS			
<u>Surveying Land</u>			
Develop survey work plans			
Determine distance by use of stadia, pacing, chaining and taping			
Determine land slope with hand level			
Establish turning points			
Identify bench marks			
Run bench level circuit			
Run profile			
Set slope stakes			
Take backsight and foresight			
<u>Mapping Soils</u>			
Transpose field notes to farm maps			
Interpret aerial photographs			
Identify soil boundaries			
Identify slope boundaries			
Identify land use boundaries			
Draw layout from field notes			
Identify soil horizons			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURAL RESOURCES TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Classify soil according to texture, structure and color			
Determine pH level			
Classify soil water			
Determine soil water holding capacity			
<u>Testing Soil</u>			
Take soil sample			
Interpret soil test report			
Take tissue tests			
Interpret tissue tests			
Use portable soil test kits			
<u>Planning and Constructing Drainage Systems</u>			
Determine amount of water to be drained			
Calculate cost of drainage system			
Determine depth and grade for main and lateral underground drains			
Determine grade and size of tiles and tubing to use			
Determine size of outlet needed			
Identify outlet for drainage			
Lay out (stake) various drainage systems in field			
Lay out water gates			
<u>Planning and Constructing Ponds</u>			
Calculate runoff rate			
Determine pond depth			
Determine location and depth of core trench			
Determine size of pond needed			
Determine size of fill needed			
Determine size of spillway needed			
Stake out pond			
<u>Planning Erosion Control Structures</u>			
Identify types of erosion			
Locate waterways			
Locate diversion ditches and open channels			
Lay out contours			

SELF-ASSESSMENT INVENTORY (Continued)

AGRICULTURAL RESOURCES TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Recommend vegetation for erosion control structures			
<u>Performing General Office Work</u>			
File			
Use telephone			
Write letters, memos and notes			
Set-up educational displays			
Prepare news releases			
Serve as tour guide			

Student _____
Date _____

SELF-ASSESSMENT INVENTORY OF PROFICIENCY
IN FORESTRY

FORESTRY TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
TIMBER PRODUCTION			
<u>Producing Seedlings in Nurseries</u>			
Take soil samples _____			
Interpret soil test results _____			
Apply lime and fertilizers _____			
Fumigate seedbed to prevent damping-off _____			
Till seedbed _____			
Treat seeds _____			
Broadcast seeds _____			
Cover seeds _____			
Mulch seedbed _____			
Water _____			
Weed nursery stand _____			
Provide shading for nursery stand _____			
Identify diseases and insects _____			
Apply chemicals to control diseases and insects _____			
Calibrate chemical applicators _____			
Determine when seedlings are ready to harvest _____			
Harvest seedlings _____			
Pack seedlings _____			
Label packages for shipment _____			
Identify species _____			
<u>Establishing Timber Stands</u>			
Develop reforestation plan _____			
Determine tree spacing _____			
Determine stocking rates _____			
Prepare seedbed with mechanical means and chemical means _____			
Transport seedlings _____			
Plant seedlings by hand or machine _____			
Broadcast seeds by hand broadcasting, machine or airplane _____			
Determine germination and survival rate _____			

SELF-ASSESSMENT INVENTORY (Continued)

FORESTRY TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Managing Established Timber Stands</u>			
Evaluate extent of damage to trees _____			
Identify diseases and insects _____			
Apply chemicals _____			
Calibrate chemical application equipment _____			
Control insects and diseases by mechanical means _____			
Remove mechanically damaged trees _____			
Use fire danger rating _____			
Identify high fire risk areas _____			
Build fire breaks _____			
Patrol for fires _____			
Build fire line _____			
Apply water and chemicals to control fires _____			
Use fire retardents _____			
Mechanically weed forest stands _____			
Chemically weed forest stands _____			
Thin timber stands _____			
Prune trees _____			
<u>Surveying Timber Stands and Land Measurement</u>			
Measure forest lands by pacing, chaining and breaking chain _____			
Establish angles and bearings with a transit or staff compass _____			
Run open and closed traverses _____			
Determine acreage in measured areas _____			
<u>Forest Mensuration</u>			
Calculate board feet of timber _____			
Calculate cubic feet of timber _____			
Calculate cords of wood _____			
Determine diameter breast height (DBH) _____			
Determine number of logs in the tree _____			
Use tree volume tables _____			
Interpret annual rings _____			
Cruise timber using different methods _____			
Make a complete forest inventory _____			
Estimate timber value in an area _____			
Mark trees for harvest _____			

SELF-ASSESSMENT INVENTORY (Continued)

FORESTRY TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Harvesting Timber</u>			
Plan cutting schedules			
Establish cutting patterns for areas			
Build logging road or trail			
Develop log landing			
Fell trees			
Buck trees			
Limb logs			
Skid logs			
Load logs on truck			
Unload logs at mill			
<u>Operating and Maintaining Forestry Equipment</u>			
Service spark plugs and wires			
Service air cleaner			
Refuel power units			
Sharpen saw chain			
Adjust carburetor			
Service fuel strainers and filters			
Grease and oil equipment			
Bleed diesel fuel system			
Change oil and oil filters			
Service cooling systems			
Service tires			
Service battery			
Service hydraulic system			
<u>SAWMILL OPERATIONS</u>			
<u>Grading and Scaling Logs and Lumber</u>			
Identify log species			
Scale logs			
Grade logs			
Identify cut lumber species			
Scale cut lumber			
Grade cut lumber			
Classify softwood lumber			

SELF-ASSESSMENT INVENTORY (Continued)

FORESTRY TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Cutting Lumber</u>			
Debark logs			
Cut logs with headrig			
Edge lumber			
Trim lumber			
<u>Stacking and Drying Lumber</u>			
Determine lumber moisture content			
Sort lumber			
Spray lumber with chemicals			
Stack lumber			
Regulate dry kiln temperatures			
Dry lumber in kiln			
<u>Operating and Maintaining Sawmill Equipment</u>			
Oil and grease equipment			
Bleed diesel fuel system			
Change oil and filters			
Grease and oil equipment			
Service belts and chains			
Replace bearings and seals			
Service battery			
Service air cleaners			
Service fuel strainer and filters			
Oil and clean electric motors			
Reset electric motors			
Sharpen saw, sawbits and shanks			
Sharpen dogs and headrig			
Align headrig tracks			
Adjust saw tension			
Service hydraulic system			

Student _____

Date _____

SELF-ASSESSMENT INVENTORY OF PROFICIENCY

IN FOOD PROCESSING

FOOD PROCESSING TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
MEAT PROCESSING			
<u>Handling Livestock at the Slaughter House</u>			
Unload livestock _____			
Sort and pen livestock _____			
Feed livestock _____			
Water livestock _____			
Clean holding pens _____			
Disinfect holding pens _____			
Weigh livestock _____			
<u>Slaughtering Livestock</u>			
Stun livestock _____			
Shackle livestock _____			
Bleed livestock _____			
Clean slaughter areas _____			
Skin animals and remove hair _____			
Sort and store hides _____			
Remove head and feet _____			
Cut open carcass _____			
Remove internal parts _____			
Separate edible and inedible internal parts _____			
Split carcass _____			
Wash and clean carcass _____			
Shroud carcass _____			
Clean and sanitize slaughtering tools and equipment _____			
Cool carcasses _____			
Determine carcass quality _____			
Grade carcasses _____			
Identify carcass grades _____			
Weigh carcasses _____			
<u>Cutting Livestock Meats</u>			
Identify wholesale cuts _____			

SELF-ASSESSMENT INVENTORY (Continued)

FOOD PROCESSING TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Identify retail cuts			
Cut carcass into wholesale cuts			
Cut wholesale cuts into retail cuts			
Bone meat			
Cube meat			
Score meat			
Shape roasts			
Grind meat			
<u>Storing, Curing and Freezing Meats</u>			
Control temperatures in storage areas			
Determine freezer life of meats			
Quick freeze meat			
Identify spoiled meats			
Rotate meats on first-in first-out basis			
Apply spices to meats			
Smoke meats			
Pickle meats			
<u>Displaying and Retailing Meats</u>			
Wrap and re-wrap packages for display cases			
Double wrap meats for customer's home freezer			
Weigh meats			
Label meats			
Clean display cases			
Rotate meats in display cases			
Set-up self-service meat displays			
Take orders for meats			
Price meats			
Post sales announcements			
<u>FISH PROCESSING</u>			
<u>Cleaning Fish</u>			
Identify species			
Unload fish			
Wash and rinse fish			
Scale fish			

SELF-ASSESSMENT INVENTORY (Continued)

FOOD PROCESSING TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Head fish _____			
Gut fish _____			
<u>Marketing Fish</u>			
Skin fish _____			
Fillet fish _____			
Package fish _____			
<u>POULTRY PROCESSING</u>			
<u>Cleaning Poultry</u>			
Unload poultry _____			
Shackle poultry _____			
Stun poultry _____			
Bleed poultry _____			
Scald poultry _____			
Pick poultry _____			
Singe poultry _____			
Eviscerate poultry _____			
Cool poultry in coolers _____			
<u>Cutting and Packaging Poultry</u>			
Identify parts of poultry _____			
Cut poultry into retail cuts or halves _____			
Chill poultry _____			
Wrap and package retail cuts or whole birds _____			
Weigh _____			
Label packages _____			
<u>Cleaning Meat, Fish and Poultry Processing Equipment</u>			
Wash down work areas _____			
Washing and rinsing hand tools _____			
Clean power processing equipment _____			

SELF-ASSESSMENT INVENTORY (Continued)

FOOD PROCESSING TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
DAIRY PRODUCTS			
<u>Receiving and Storing Raw Milk</u>			
Weigh tankers			
Draw milk samples			
Label and store samples			
Unload milk			
Regulate temperatures in storage areas			
Determine storage life			
Identify spoiled milk			
Determine amount of milk in storage			
Standardize milk according to federal and state compositional standards			
<u>Processing Milk</u>			
Check temperature of milk			
Clarify milk			
Pasteurize milk			
Determine bacterial count			
Cool-down milk			
Homogenize milk			
Separate milk			
Bottle milk			
Case and stock milk			
<u>Processing Milk Products</u>			
Prepare ice creams			
Prepare buttermilk			
Prepare cheese			
Prepare cottage cheese			
Prepare yogurt			
Package products			
Freeze ice creams			
Cool products			
<u>Cleaning and Sanitizing Dairy Processing Equipment</u>			
Identify improperly cleaned equipment			
Wash down work areas			

SELF-ASSESSMENT INVENTORY (Continued)

FOOD PROCESSING TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Clean bulk tankers _____			
Clean milk cans _____			
Pre-rinse plant equipment _____			
Operate clean-in-place system _____			
Post-rinse plant equipment _____			
<u>Maintaining Dairy Plant Equipment</u>			
Grease and oil equipment _____			
<u>Recording Information</u>			
Record weighing information _____			
Record storage information _____			
<u>FRUIT AND VEGETABLE PROCESSING</u>			
<u>Receiving and Storing Fruits and Vegetables</u>			
Dump fruits and vegetables into tanks _____			
Transfer fruits and vegetables to storage _____			
Control temperatures in storage areas _____			
<u>Preparing Fruits and Vegetables for Final Processing</u>			
Wash fruits and vegetables _____			
Trim fruits and vegetables _____			
Peel fruits and vegetables _____			
Shred, slice or dice fruits and vegetables _____			
Blanch fruits and vegetables _____			
Cook fruits and vegetables _____			
<u>Packaging Fruits and Vegetables</u>			
Fill containers _____			
Close containers _____			
Label containers _____			
Remove filled containers _____			
Store filled containers _____			

SELF-ASSESSMENT INVENTORY (Continued)

FOOD PROCESSING TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Cleaning and Sanitizing Food Processing Equipment</u>			
Wash down floors and work areas _____			
Pre-rinse tools and equipment _____			
Operate clean-in-place system _____			
Post-rinse tools and equipment _____			

Student _____

Date _____

SELF-ASSESSMENT INVENTORY OF PROFICIENCY
IN HORTICULTURE

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
FLORICULTURE (WHOLESALE AND RETAIL)			
<u>Production of Cut Flowers, Potted Plants, Foliage Plants and Bedding Plants</u>			
Develop cropping schedules _____			
Maintain production records _____			
Sample and test soil _____			
Mix growing media _____			
Apply soil amendments _____			
Sterilize soil _____			
Cultivate media _____			
Level and prepare benches for planting _____			
Select proper growing containers _____			
Take cuttings _____			
Plant cuttings _____			
Treat cuttings _____			
Pinch _____			
Identify plants _____			
Control temperatures _____			
Control ventilation _____			
Regulate photoperiodism _____			
Identify pests _____			
Identify diseases _____			
Apply growth regulators _____			
Support plants _____			
Apply chemicals for diseases and insects _____			
Harvest plants _____			
Grade plants _____			
Store harvested plants _____			
Propagate plants _____			
Transplant (rooted cuttings/seedlings) _____			
Water plants and seed flats _____			
Fertilize plants (liquid and dry) _____			
Disbud _____			
Plant terrarium and dish garden _____			

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SELF-ASSESSMENT INVENTORY (Continued)

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Sow seed			
Clean production equipment and facilities			
<u>Designing Floral Products</u>			
Identify flowers and accessory items			
Select flowers and accessory items for specific occasions			
Wire flowers and foliage			
Tape flowers			
Assemble corsage			
Assemble boutonniere			
Assemble hair pieces			
Select containers for arrangements			
Prepare containers for arrangements			
Design arrangements and sprays			
Apply preservatives			
Condition flowers and foliage			
Assemble floral arrangements			
Prepare spray bases			
Assemble sprays			
Decorate potted plants			
Wrap potted plants and arrangements			
Assemble planters			
Assemble a terrarium			
Assemble fruit baskets			
Assemble wedding pieces			
Store flowers and foliage			
Decorate buildings for specific occasions			
Clean work areas			
<u>Delivering Floral Products</u>			
Route orders			
Load delivery vehicles			
Operate delivery vans			
Clean vehicles			
<u>Retailing Floral Products</u>			
Use floral wire service			
Interpret customer needs			

SELF-ASSESSMENT INVENTORY (Continued)

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Take customer orders			
Make sales transaction			
Write-up sales slips			
Operate cash registers and adding machines			
Use telephone			
Use credit plans			
Stock merchandise			
Label merchandise			
Set-up displays			
Package products sold			
Demonstrate items for customers			
Take physical inventory			
Price merchandise			
Interpret plant care instructions for customers			
LANDSCAPE			
<u>Landscape Establishment and Maintenance</u>			
Mow lawns			
Clean mowing equipment			
Hand trim			
Edge landscape beds			
Remove leaves			
Apply fertilizers and lime			
Sample and test soil			
Take tissue sample			
Identify landscape plants			
Select pruning equipment			
Prune large trees			
Prune vines and ground covers			
Prune shrubs and hedges			
Prune evergreens			
Prune roses			
Water landscape plants			
Mulch landscape plants			
Select mulch for specific areas			
Thatch lawns			
Aerate lawns			
Sow seed			
Prepare seedbed			

SELF-ASSESSMENT INVENTORY (Continued)

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Identify turf weeds, diseases and insects			
Apply chemicals to turf areas			
Dig trees and shrubs			
Ball and burlap plants			
Move trees and shrubs			
Guy and stake trees			
Repair trunk wounds			
Identify tree and shrub insects and diseases			
Apply chemicals to trees and shrubs			
Wrap trunks			
Winter protect landscape plants			
Fertilize trees and shrubs			
Plant trees and shrubs			
Plant vines and ground covers			
Install drainage tile			
Rough grade			
Finish grade			
Lay sod			
Plant annuals and perennials			
Plant roses			
Install fencing and screens			
Paint fences and screens			
Install outdoor lights			
Install lawn ornaments			
Construct trench drains			
Install irrigation systems			
Lay retaining or planter walls			
Construct planters			
Construct benches			
<u>Designing Landscape Areas</u>			
Call on landscape customers			
Use landscape drawing tools and equipment			
Lay out a complete landscape drawing			
Calculate cost of landscape job			
Design landscapes for specific areas			
<u>Delivering Landscape Products</u>			
Load and unload trucks			
Operate flat bed, dump, and pickup trucks			

SELF-ASSESSMENT INVENTORY (Continued)

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Clean vehicles			
<u>Selling Landscape Products</u>			
Interpret customer needs			
Make sales transaction			
Write-up sales tickets			
Use telephone			
Take customer orders			
Operate cash register and adding machines			
Use credit system			
Stock merchandise			
Label merchandise			
Price products			
Wrap and package products			
Rent equipment			
Demonstrate products for customers			
Display merchandise			
Take inventory			
<u>NURSERY</u>			
<u>Producing Nursery Stock</u>			
Take soil test			
Select proper planting media			
Apply soil amendments			
Sterilize soil media			
Dig and prepare planting holes			
Identify nursery plants			
Plant nursery stock			
Fertilize nursery stock			
Water nursery stock			
Mulch and edge			
Wrap and stake nursery stock			
Identify nutrient deficiency symptoms			
Take a tissue test			
Select pruning equipment			
Form and trim nursery stock			
Prune damaged plants			
Dig nursery plants			

SELF-ASSESSMENT INVENTORY (Continued)

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Burlap stock _____			
Move plants _____			
Winterize nursery stock _____			
Identify diseases and insects _____			
Apply fungicides and insecticides _____			
Identify weeds _____			
Apply herbicides _____			
Schedule propagations _____			
Select containers for growing nursery stock _____			
Propagate by cuttings _____			
Propagate by grafting _____			
Propagate by budding _____			
Seed nursery stock _____			
Treat seeds _____			
Remove suckers and sprouts _____			
Determine when to harvest _____			
Grade nursery stock _____			
<u>Selling Nursery Plants</u>			
Interpret customer needs _____			
Make sales transaction _____			
Write-up sales tickets _____			
Operate cash register and adding machine _____			
Use telephone _____			
Take customer orders _____			
Use credit system _____			
Stock merchandise _____			
Label merchandise _____			
Display products _____			
Take physical inventory _____			
<u>Delivering Nursery Stock</u>			
Load and unload trucks _____			
Operate delivery trucks _____			
Clean delivery trucks _____			
 TURF			
<u>Maintaining Turf Areas</u>			

SELF-ASSESSMENT INVENTORY (Continued)

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Mow turf areas (greens, fairways and roughs)			
Clean mowing equipment			
Identify turf grasses			
Sample and test soil			
Apply fertilizer and lime			
Remove leaves and debris			
Identify nutrient deficiency symptoms			
Determine when to water turf			
Apply water			
Identify insects, diseases and rodents			
Apply insecticides and fungicides			
Set traps and bait for rodents			
Identify weeds			
Apply herbicides			
Aerify turf by plugging, splicing and spiking			
De-thatch			
Matt			
Re-seed areas			
Mulch			
Lay and repair sod			
Install trenches and ditches for drainage			
Lay tile			
Repair divot and wheel damage to turf			
Repair storm damage			
<u>Establishing Golf Course Fairways, Roughs and Bunkers</u>			
Layout areas and boundaries			
Design bunkers and traps			
Remove obstacles and unwanted trees			
Install drainage			
Lay water line			
Apply top soil			
Establish grade			
Prepare seedbed			
Apply soil amendments			
Sow grass seed			
Lay sod			
Water			
Mulch			

SELF-ASSESSMENT INVENTORY (Continued)

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Maintaining Sand Traps, Cart Paths and Bridges</u>			
Rake, edge and roll sand _____			
Replenish sand _____			
Repair bridges _____			
Surface bridges and paths _____			
Lay-out cart paths _____			
<u>GARDEN CENTER</u>			
<u>Handling and Maintaining Plants</u>			
Water _____			
Heel-in plants _____			
Mulch _____			
Prepare potting mixtures _____			
Pot plants _____			
Prune _____			
Re-ball and burlap _____			
Fertilize plants _____			
Install supports _____			
Identify insects and diseases _____			
Apply insecticides and fungicides _____			
Identify weeds _____			
Apply herbicides _____			
Move plants for customers _____			
Clean work areas _____			
<u>Working With Allied Horticulture Products</u>			
Assemble allied horticulture equipment and products _____			
Service allied equipment and products _____			
Store allied equipment and products _____			
<u>Selling Garden Center Products</u>			
Interpret customer needs _____			
Take customer orders _____			
Make sales transactions _____			
Write-up sales tickets _____			
Operate cash registers and adding machines _____			

SELF-ASSESSMENT INVENTORY (Continued)

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Use telephone			
Use credit plans			
Check out equipment for rental			
Label merchandise			
Stock shelves			
Set-up displays			
Demonstrate items for customers			
Take inventory			
Price products			
Interpret product instructions			
Package products			
Clean sales areas			
HORTICULTURE MECHANICS			
<u>Using Hand and Power Tools and Equipment</u>			
Identify hand tools and equipment			
Identify power tools and equipment			
Select tools and equipment for specific uses			
Sharpen tools			
Clean and store tools			
<u>Servicing and Maintaining Small Engines</u>			
Identify 2-cycle and 4-cycle engines			
Clean small engines			
Service air cleaner			
Service and adjust carburetor			
Service fuel strainers or screens			
Service crankcase breather			
Service spark plugs			
Service points and condensor			
Change oil			
Refuel engines			
Check compression			
Start and operate engines			
Interpret service or operator's manual			
Prepare engines for storage			

SELF-ASSESSMENT INVENTORY (Continued)

HORTICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Maintaining Horticultural Buildings and Structures</u>			
Replace light bulbs			
Replace electrical switches			
Repair faucet and water pipe or hose leaks			
Clean water pipes and traps			
Replace glass			
Paint structures			
Build benches and cold frames			
Install and adjust watering equipment in greenhouses			
Replace fuses and reset circuit breakers			
<u>Performing Various Horticultural Mechanics Operations</u>			
Service and adjust automatic timers			
Service and adjust CO ₂ generators			
Refuel vans and trucks			
Check oil in vans and trucks			
Grease vans and trucks			
Service air filter on vehicles			
Sharpen mower blade and reel			
Adjust height of mower cut			
Calibrate and adjust spreaders			
Sharpen pruning tools			
Maintain power edger			
Service battery			
Service tires			
Replace bearings and seals			
Clean and store spraying equipment			
Calibrate chemical sprayers			
Clean and store fertilization equipment			
Install and connect pipe			
Service sprinkler system			
Service hydraulic systems			
Build forms			
Pour concrete			
Lay brick, stone or block			
Check brake fluid level			

Student _____
Date _____

SELF-ASSESSMENT INVENTORY OF PROFICIENCY
IN SMALL ANIMAL CARE

SMALL ANIMAL CARE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Recording Information</u>			
Record bowel movement information _____			
Record feeding information _____			
Record breeding information _____			
Record general client information _____			
Record births and mortalities _____			
Record general patient information _____			
Record surgery information _____			
Record medication information _____			
Record vaccination information _____			
Record weight information _____			
Record pedigree information _____			
<u>Handling and Caring for Animals and Fish</u>			
Check for pregnancy _____			
Collect bowel movements _____			
Exercise animals _____			
Determine when animals are in heat _____			
Mate animals _____			
Identify animals and breeds of animals _____			
Induce bowel movements _____			
Place animals in holding pens _____			
Prepare transport cages _____			
Separate non-compatible animals _____			
Help deliver young _____			
Help animals nurse _____			
Take pulse and temperature _____			
Tag animals for identification _____			
Pen animals _____			
Catch animals _____			
Control animals _____			
Evaluate overall condition of animals _____			
Control environment in pens and cage areas _____			
Identify varieties of fish _____			

SELF-ASSESSMENT INVENTORY (Continued)

SMALL ANIMAL CARE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Determine space requirements for animals and fish			
Prepare aquariums			
Maintain aquarium environment			
Acclimate fish to environments			
Disinfect aquariums			
<u>Feeding Animals</u>			
Add medication to feed			
Interpret feed labels			
Prepare feed			
Feed orphan baby animals			
Place feed in feeders			
Store feed			
Water animals			
Feed presurgical diet			
Feed pre and post-shipment diet			
<u>Grooming Animals</u>			
Bathe animals			
Clean ears			
Clean teeth			
Clip nails			
Comb animals			
Dry animals			
Identify various clipping patterns			
Clip animals			
Perform post-clipping procedures			
Drain anal sacs			
Perfume animals			
Pluck hair			
Perform stripping patterns			
<u>Performing Examining Room Work</u>			
Apply and change bandages			
Identify external parasites			
Prepare examining room and table			
Place and restrain animal on examining table			
Assist in diagnosis of infectious and non-infectious diseases			

SELF-ASSESSMENT INVENTORY (Continued)

SMALL ANIMAL CARE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Identify disease control procedures _____			
<u>Performing Laboratory Tests</u>			
Identify parasites and parasite eggs _____			
Use metric system _____			
Analyze fecal samples _____			
Collect urine samples _____			
Operate microscope _____			
Measure solids and liquids _____			
<u>Restraining Animals</u>			
Apply muzzles _____			
Apply pneumatic collar _____			
Form temporary muzzle _____			
Approach and catch animals _____			
Net birds _____			
Restrain animals _____			
Tape legs _____			
Tie animals to table _____			
<u>Using and Maintaining Equipment</u>			
Interpret equipment operation instructions _____			
Clean and disinfect instruments and equipment _____			
Inspect equipment for defects _____			
Store instruments and equipment _____			
Repair damaged equipment _____			
Sterilize instruments and equipment _____			
Select equipment for specific situations _____			
Identify equipment _____			
<u>Performing Emergency First Aid on Animals</u>			
Apply antiseptic _____			
Identify internal hemorrhaging problems _____			
Cleanse wounds _____			
Identify and treat for shock _____			
Identify rabid animals _____			
Control external bleeding _____			
Transport emergency victims _____			

SELF-ASSESSMENT INVENTORY (Continued)

SMALL ANIMAL CARE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Administer oxygen_____			
Apply minor medication_____			
Maintain body temperature_____			
Administer artificial respiration_____			
Prepare animal for transfusion_____			
<u>Selling Products</u>			
Make sales transaction_____			
Complete sales slip_____			
Operate cash register and adding machine_____			
Use credit plans_____			
Stock shelves_____			
Set-up displays_____			
Price products for customers_____			
Demonstrate products for customers_____			
Package products sold_____			
Weigh out products for customers_____			
Interpret customer needs_____			
Take customer orders_____			
Label merchandise_____			
Interpret animal care instructions for customers_____			
<u>Maintaining Facilities</u>			
Load and dispose of wastes_____			
Clean feeders_____			
Clean aquariums_____			
Clean holding pens, cages, runs and sinks_____			
Clean floors_____			
Clean waiting room_____			
Wash windows_____			
Disinfect pens_____			
Dispose of residues, containers and trash_____			
<u>Administering Medication</u>			
Interpret terminology_____			
Administer oral medication_____			
Interpret prescriptions_____			
Administer rectal medication_____			
Administer subcutaneous medication_____			

SELF-ASSESSMENT INVENTORY (Continued)

SMALL ANIMAL CARE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Administer surface medication_____			
Fill syringe_____			
Select proper medication equipment_____			
Sterilize injection equipment_____			
Locate injection points on animals_____			
Use disinfectants_____			
Assist in treating diseases_____			
<u>Assisting With X-Rays</u>			
Prepare X-ray equipment for operation_____			
Develop film_____			
Operate X-ray equipment_____			
Position animals for X-rays_____			
Store X-rays_____			
<u>Preparing the Surgery Room</u>			
Clean surgery room_____			
Prepare standard and special surgical packs_____			
Lay out surgical equipment_____			
Prepare sterile bundles and germicide basins_____			
Prepare sterile gowns, caps and masks_____			
<u>Preparing Animals for Surgery</u>			
Assist in anesthetizing animals_____			
Drape and position animal_____			
Clip animal hair_____			
Wash operative area on animal_____			
<u>Performing General Office Work</u>			
Admit and dismiss patients_____			
File forms and records_____			
Use telephone_____			
Schedule appointments_____			
Use typewriter_____			
Write memos, notes and letters_____			
Greet clients_____			
Take physical inventory_____			
Remove expired products_____			

SELF-ASSESSMENT INVENTORY (Continued)

SMALL ANIMAL CARE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Manage "bad" checks			
Interpret company rules and procedures			
Make bank deposits			
Bill customers			
<u>Dispensing Medications and Supplies</u>			
Store medications			
Destroy empty containers			
Label containers			
Weigh out medications			
Maintain storage areas			
Interpret labels			
Interpret prescription requests			

Student _____
Date _____

SELF-ASSESSMENT INVENTORY OF PROFICIENCY
IN PRODUCTION AGRICULTURE

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
DAIRY			
<u>Handling and Caring for Dairy Cattle</u>			
Help deliver calves _____			
Check cow's milk supply _____			
Identify when cows are ready to calve _____			
Tag dairy cattle _____			
Move dairy cattle to holding pens or milking areas _____			
Castrate bull calves for feedlot _____			
Clean newborn calves _____			
Help young to nurse _____			
Remove afterbirth _____			
Control ventilation in housing quarters _____			
Trim feet _____			
Clip da ry cattle _____			
Dehorn _____			
Disinfect and clip navel cords _____			
Remove excess teats _____			
<u>Maintaining Dairy Herd Health</u>			
Check udders for problems _____			
Identify and treat for bloat _____			
Blood test cows _____			
Identify parasites _____			
Control for various parasites _____			
Treat for mastitis _____			
Treat udders for cuts and bruises _____			
Rotate pastures to control parasites _____			
Identify sanitation problems _____			
Give IM shots _____			
Clean buildings and equipment _____			
<u>Feeding Dairy Cattle</u>			
Identify feedstuffs _____			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Identify quality of feedstuffs _____			
Calculate feed conversion _____			
Prepare dairy feeds _____			
Feed producing cows, dry cows and just prior to calving _____			
Water animals _____			
Feed milk replacer to calves _____			
Interpret feed tags and feeding charts _____			
Wean dairy calves _____			
Replace salt and mineral blocks _____			
Dry-off cows _____			
<u>Selecting and Breeding Dairy Cattle</u>			
Determine when animals are in heat _____			
Store and prepare semen _____			
Artificially inseminate cattle _____			
Pregnancy test animals _____			
Determine when animals are due _____			
Interpret pedigrees and production records _____			
<u>Milking Dairy Cows</u>			
Wash and dry udders _____			
Attach and take off milkers _____			
Determine if milk can be shipped _____			
Dip teats _____			
Adjust pulsator speed _____			
<u>Sanitizing and Maintaining Milking Equipment</u>			
Clean bulk tank _____			
Adjust vacuum _____			
Clean pulsators _____			
Replace inflations _____			
Remove milkstone _____			
Replace head rings _____			
Replace cup liners _____			
Wash and flush all milking equipment _____			
Store milking equipment _____			
Interpret milk inspector's reports _____			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Shipping Cattle and Milk</u>			
Load dairy cattle and calves _____			
Service cooler or bulk tank _____			
Determine amount of milk in bulk tank _____			
Interpret milk base prices and differential prices _____			
Consign animals at sales _____			
Interpret milk market reports _____			
<u>Recording Information</u>			
Record information on individual cow records _____			
Keep official milk production records _____			
 SWINE			
<u>Handling and Caring for Hogs</u>			
Help deliver pigs _____			
Clean newborn pigs _____			
Check sow's milk supply and underline _____			
Identify when sows are ready to farrow _____			
Ear notch pigs _____			
Move hogs _____			
Castrate hogs _____			
Help pigs to nurse _____			
Remove afterbirth _____			
Control heat and ventilation in quarters _____			
Trim feet _____			
Clip needle teeth _____			
Disinfect and clip naval cords _____			
Pen hogs of various weight, size and sex _____			
Weigh pigs _____			
Move pigs from litter to litter _____			
Exercise hogs _____			
Wash sows _____			
Use pig brooders and crates _____			
De-tusk boars _____			
Clip tails _____			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Maintaining Hog Herd Health</u>			
Worm animals			
Check herd for general health problems			
Give shots			
Identify parasites			
Control for various parasites			
Treat for cuts and bruises			
Identify sanitation problems			
Disinfect buildings and equipment			
Identify hog diseases			
<u>Feeding Hogs</u>			
Identify feedstuffs			
Identify quality of feedstuffs			
Calculate feed conversion			
Prepare hog feeds			
Feed sows, boars, gilts and feeders			
Water hogs			
Wean pigs			
Flush hogs			
Interpret feed tags and charts			
<u>Selecting and Breeding Hogs</u>			
Determine when hogs are in heat			
Test hogs			
Take backfat probe			
Mate hogs			
Determine when hogs are due			
Interpret pedigrees and production records			
<u>Shipping Hogs</u>			
Estimate weights of hogs			
Load and unload hogs			
Interpret hog market reports			
Estimate market grades			
Consign hogs at sale			
Calculate dressing percent			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Recording Information</u>			
Record information on individual sow records _____			
<u>BEEF</u>			
<u>Handling and Caring for Beef Cattle</u>			
Help deliver calves _____			
Check brood cow's milk supply _____			
Tag beef cattle _____			
Move and pen beef cattle _____			
Castrate calves _____			
Help young nurse _____			
Trim feet _____			
Dehorn _____			
Disinfect and clip navel cords _____			
Weigh animals _____			
<u>Maintaining Beef Herd Health</u>			
Identify and treat for bloat _____			
Identify parasites _____			
Control for various parasites _____			
Rotate pastures _____			
Identify sanitation problems _____			
Give IM shots _____			
<u>Feeding Beef Cattle</u>			
Identify feedstuffs _____			
Identify quality of feedstuffs _____			
Calculate feed conversion _____			
Prepare beef feeds _____			
Feed calves, feeders, brood cows and bulls _____			
Water animals _____			
Interpret feed tags and charts _____			
Wean calves _____			
Replace salt and mineral blocks _____			
Precondition animals for feedlot _____			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Selecting and Breeding Beef Cattle</u>			
Interpret pedigrees and production records _____			
Determine approximate due dates _____			
Mate beef cattle _____			
Develop breeding schedule _____			
Test cattle _____			
<u>Shipping Beef Cattle</u>			
Estimate weights _____			
Load and unload cattle _____			
Interpret beef market reports _____			
Consign cattle at sale _____			
Calculate dressing percent _____			
<u>Recording Information</u>			
Keep official beef production records _____			
SMALL GRAINS (OATS, WHEAT, BARLEY)			
<u>Establishing Small Grain Crops</u>			
Determine when to plant _____			
Identify seeds and plants _____			
Take and interpret soil tests _____			
Interpret seed tags and labels _____			
Plow _____			
Disk _____			
Drill in grain _____			
Apply lime or fertilizer _____			
Identify diseases and insects _____			
Apply chemicals _____			
Evaluate different varieties _____			
<u>Harvesting Small Grain Crops</u>			
Determine yield and test weight _____			
Determine stage of maturity _____			
Combine grain _____			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Adjust combine_____			
Determine field losses_____			
Mow straw_____			
Rake straw_____			
Bale straw_____			
Adjust baler_____			
<u>Storing Small Grains and Straw</u>			
Haul grain to storage with wagon or truck_____			
Unload grain_____			
Prepare storage bins for grains_____			
Check storage bins for heat and insects_____			
Load and unload straw bales_____			
Use chemicals to control insects in bins_____			
Examine quality of companion crops_____			
<u>Marketing and Shipping Small Grains</u>			
Evaluate small grain market reports_____			
Truck grain to terminals_____			
<u>CORN AND SOYBEANS</u>			
<u>Establishing Corn and Soybeans</u>			
Take and interpret soil tests_____			
Interpret seed tags and labels_____			
Determine when to plant_____			
Evaluate different varieties_____			
Plow ground_____			
Disk ground_____			
Plant corn or beans_____			
Interpret fertilizer labels_____			
Apply fertilizers in various forms_____			
Calibrate and adjust fertilizer application equipment_____			
Identify insects and diseases_____			
Apply chemicals_____			
Identify nutrient deficiency symptoms_____			
Calibrate sprayers_____			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Identify weeds _____			
Cultivate and rotary hoe crops _____			
<u>Harvesting Corn and Soybeans</u>			
Determine stage of maturity _____			
Determine yield _____			
Pick or combine corn or beans _____			
Adjust picker or combine _____			
Cut corn for silage _____			
Fill silo _____			
<u>Storing Corn or Beans</u>			
Haul grain to storage with wagon or truck _____			
Unload or dump grain _____			
Prepare storage bins _____			
Check storage bins for insects _____			
Use measures to control insects in storage _____			
<u>Marketing Corn and Beans</u>			
Truck grain to terminals _____			
Evaluate market reports _____			
<u>FORAGES</u>			
<u>Establishing Forage Crops</u>			
Take and interpret soil test _____			
Evaluate various varieties _____			
Interpret labels and tags _____			
Prepare seedbed for plowing or disking _____			
Treat seeds _____			
Drill or broadcast forages _____			
Apply fertilizers and lime _____			
Calibrate application equipment _____			
Identify insects, diseases and weeds _____			
Apply chemicals _____			
Calibrate chemical applicators _____			
Clip pastures _____			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
<u>Harvesting Forages</u>			
Determine stage of maturity			
Determine yields			
Mow and condition hay			
Bale hay			
Cut silage			
Fill silo			
Green chop hay for feed			
<u>Storing Forage Crops</u>			
Load and unload hay			
Inspect stored hay for heating			
<u>FARM MECHANICS</u>			
<u>Maintaining and Servicing Power Units (Tractors and Trucks)</u>			
Service fuel system			
Service cooling systems			
Change engine oil and filter			
Service air cleaners and turbo chargers			
Adjust carburetors			
Refuel power units			
Bleed diesel fuel system			
Replace injectors			
Replace points and plugs			
Service clutch and brakes			
Grease equipment			
Inflate tires			
Service battery			
Interpret operator's manuals and service manuals			
Service hydraulic system			
<u>Maintaining and Servicing Farm Equipment</u>			
Grease and oil equipment			
Replace bearings and seals			
Adjust belts and chains			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Service mowers, haybines or rotary scythes			
Service hay rakes, crimpers and conditioners			
Service balers			
Service combines			
Service corn pickers			
Service remote hydraulic cylinders			
Service plows			
Service disks, rotary hoes and harrows			
Service grain drills			
Service corn planters			
Service chemical applicators			
Service dryers and ventilation systems			
Service materials handling equipment (elevators, augers, wagons and loaders)			
Assemble and set-up equipment			
<u>Maintaining and Using Hand and Power Tools</u>			
Use hand carpentry tools			
Use power carpentry tools			
Use welding equipment			
<u>Constructing and Maintaining Buildings and Structures</u>			
Paint			
Hang and repair doors			
Repair roof			
Repair faucet			
Install pipe			
Build fence and gates			
Construct buildings			
Pour and finish concrete			
Replace or repair siding			
Lay blocks			
Install electric wiring			
Replace switches			
Replace fuses a.d reset breakers			
 FARM MANAGEMENT			
<u>Performing General Farm Business Office Work</u>			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
File _____			
Use telephone _____			
Make bank deposits _____			
Write checks _____			
Record farm account information _____			
<u>Inventorying Items</u>			
Take physical inventory _____			
Calculate depreciation _____			
Set-up depreciation schedules _____			
<u>Planning the Labor Supply</u>			
Identify work priority items _____			
Identify peak labor periods _____			
Plan work schedules _____			
Evaluate employee work performance _____			
<u>Purchasing Supplies</u>			
Evaluate different sources and prices _____			
Determine what is needed _____			
Determine amount needed _____			
<u>Insuring the Farm Business</u>			
Evaluate different sources and costs _____			
Determine what to insure _____			
Determine amount of insurance _____			
<u>Planning the Livestock Program</u>			
Evaluate various resources available _____			
Determine future expansion plans _____			
Identify potential areas of inefficiency _____			
Develop budgets _____			
Establish production goals and practices _____			
<u>Planning the Crop Program</u>			
Identify resources available _____			

SELF-ASSESSMENT INVENTORY (Continued)

PRODUCTION AGRICULTURE TASKS AND SKILLS	Can Perform Without Supervision	Can Perform With Supervision	Can Not Currently Perform
Evaluate cropping plan for farm _____			
Develop budgets _____			
Identify areas of inefficiency _____			
Establish production goals and practices _____			
<u>Summarizing the Farm Business</u>			
Calculate labor and management income _____			
Calculate efficiency factors _____			
Identify strengths and weaknesses of farm business _____			

APPENDIX B

INTERNSHIP REPORTING
FORMS AND RECORDS

white - OSU
yellow - student
pink - employer
gold - coordinating
teacher

AGRICULTURAL EDUCATION DEPARTMENT
The Ohio State University
Columbus

INTERNSHIP AGREEMENT

(not a binding contract but a statement of agreement and understanding)

Student's Name _____ Phone () _____
Last First Middle

Internship Mailing Address _____
Street City State Zip

Student's Social Security Number _____

Program _____

Employer Name _____ Phone () _____

Address _____
Street City State Zip

Dates of Employment _____ to _____

Activities in which student will participate (use extra page if necessary)

Daily hours of work _____ a.m. to _____ p.m. Days per week _____

Remuneration employer is to pay this student _____ per hr. wk. mo.

Other Information _____

The undersigned agree to conform with this agreement and two weeks notice must be given to all parties before this agreement is terminated.

Signed: Approved by Employer _____ Date _____

Approved by Student Intern _____ Date _____

Approved by Coordinating Teacher _____ Date _____

Approved by Dept. Coordinator _____ Date _____

Work Plan

Program: Horticulture (Turf and Greenhouse Operations Combined)

Turf Operations

- A. Mowing Turf Areas (Fairways, roughs, and greens)
 - 1. Selecting mowing equipment
 - a. Identification of various mowing equipment
 - b. Selection of mowing equipment for specific turf areas
 - 2. Preparing mowing equipment
 - a. Engine and mower preparation
 - b. Adjust mower height
 - 3. Operating mowing equipment
 - a. Determine when (time) to mow
 - b. Determine direction to mow
 - c. Edging techniques
- B. Fertilization of Turf Areas
 - 1. Testing soil
 - a. Take samples
 - b. Prepare and submit samples
 - c. Analyze and interpret test results
 - 2. Applying fertilizer
 - a. Calibrate and adjust application equipment
 - b. Determine when to apply fertilizers
 - c. Determine amount of fertilizer to apply
 - d. Operate application equipment
 - e. Clean up, lubricate, and store application equipment
- C. Watering Turf Areas
 - 1. Selection of watering equipment
 - 2. Determine amount of water to apply (determine soil water holding capacity)
 - 3. Determine frequency of watering
 - 4. Adjust sprinklers and water heads

5. Apply water
6. Maintain watering equipment

D. Controlling Pests, Diseases, and Rodents

1. Identify various types of damage
2. Identify types of pests and rodents
3. Identify diseases
4. Identify types of control
5. Calibrate application equipment
6. Apply insecticides and fungicides (determine amount and time to apply)
7. Clean and store application equipment
8. Set traps and set bait for rodent control
9. Interpret chemical laws and follow safety

E. Controlling Weeds

1. Identify weeds
2. Select herbicides
3. Calibrate herbicide application equipment
4. Determine amount to apply
5. Determine when to apply
6. Apply herbicides
7. Clean and store equipment
8. Interpret application regulations and safety

F. General Turf Maintenance

1. Repair divot and other physical damage
2. Maintain sand traps
3. Maintain golf cart paths
4. Tee management

Greenhouse Operations

A. Media Preparation and Planting

1. Sample and test soil
2. Mix proper media for various plants
3. Prepare soil amendments
4. Apply soil amendments
5. Sterilize soil
6. Fill benches, pots, etc. and prepare media for planting
7. Plant greenhouse crops such as cut flowers, foliage plants, potted plants, and bedding plants

B. Watering Greenhouse Crops

1. Identify appropriate watering equipment

2. Irrigate and water crops
 3. Maintain watering equipment
- C. Fertilizing Greenhouse Crops
1. Apply liquid and dry fertilizers based on needs of crops
 2. Maintain fertilizer application equipment
- D. Insect, Disease, and Weed Control
1. Identification of insects, diseases, and weeds
 2. Identify methods of control
 3. Select appropriate chemicals
 4. Apply pesticides, fungicides, and herbicides
 5. Maintain application equipment
 6. Follow safety procedures
- E. General Maintenance of Greenhouse Environmental Control Equipment
1. Safety precautions to use with equipment
 2. Maintaining watering equipment
 3. Maintaining lighting equipment
 4. Maintain CO₂ generating equipment
 5. Maintain roto tillers, shredders, etc.
 6. Replace glass

WORK PLAN

Program: Production Agriculture (Hog Farm)

Hog Enterprise

A. Feeding Hogs

1. Fill waterers and feeders
2. Clean feeding equipment
3. Grind and mix feed
4. Interpret feed tags and feeding charts
5. Determine feed efficiency
6. Flush hogs
7. Precondition hogs for shipping

B. Maintaining Hog Herd Health

1. Identify parasites
2. Check for hog herd problems
3. Use materials to control health problems (worming, etc.)
4. Clean and disinfect hog equipment
5. Give IM shots
6. Clean hog pens and buildings
7. Inspect farm for hog health sanitation problems

C. Handling and Caring for Hogs

1. Load hogs for market
2. Sort hogs
3. Help sow at farrowing
4. Castrate pigs
5. Check sows for signs of delivery
6. Ear-notch pigs
7. Clip needle teeth
8. Cut tails on feeders

D. Breeding Sows and Gilts

1. Determine when sows and gilts should be bred
2. Breed sows

Grain Operation

A. Controlling Insects and Weeds

1. Apply chemicals
2. Calibrate sprayers
3. Prepare chemicals for application
4. Cultivate corn

B. Harvesting Grains

1. Take moisture check
2. Determine yield
3. Combine grain
4. Store grain
5. Clean and prepare storage areas

Machinery Maintenance and Operation

1. Perform regular maintenance (grease, oil, etc.)
2. Become familiar with service or operator's manuals
3. Operate equipment

Work Plan

Program: Agri-Business, Supply, and Service
(Fertilizer Plant Operations)

A. Introduction to the Business

1. Organization of the business
2. Policies of the business
3. Business procedures

B. Salesmanship

1. Meet customers
2. Describe products to customers
3. Answer customers' questions regarding products
4. Handle customer complaints according to company policy
5. Conduct and close sales presentations
6. Price products
7. Use product catalogs

C. Receive Customer Orders

1. Take orders by phone
2. Write-up customers' orders

D. Sales Receipts

1. Write-up invoices
2. Calculate discounts
3. Use tax tables and price lists
4. File invoices
5. Receive payments

E. Stock Products

1. Rotate stock
2. Set-up displays

F. Inventory Products

1. Use inventory system
2. Take physical inventory

G. Legal Procedures

1. Identify federal, state, and local laws
2. Follow rules and regulations

H. Receiving Products

1. Check materials against bill of lading
2. Inspect for damaged products
3. Report damages and discrepancies

I. Storing and Warehousing Fertilizers

1. Unload trucks and rail cars
2. Inspect and clean storage areas
3. Check for storage problems
4. Unload liquid fertilizers
5. Transfer NH_3 from trucks and tank cars to storage tanks

J. Servicing and Maintaining Equipment and Vehicles

1. Clean equipment and vehicles
2. Grease and oil
3. Service cooling system
4. Service battery
5. Install and adjust belts and chains
6. Service air cleaner
7. Tear down and repair pumps
8. Service air compressors and vessels
9. Paint equipment
10. Replace or service bearings and seals
11. Make needed repairs and adjustments

K. Preparing Fertilizers

1. Mix and blend fertilizers
2. Clean processing equipment
3. Interpret blending and preparation equipment
4. Weigh ingredients
5. Adjust blending equipment
6. Interpret product labels
7. Draw-off prepared fertilizers

L. Delivery of Fertilizers

1. Complete delivery reports
2. Load and unload fertilizers
3. Transfer liquid fertilizer from storage to nurse tank
4. Transfer NH_3 from storage to nurse tank

5. Tow fertilizer buggies
6. Transfer fertilizer from delivery equipment to customer's equipment

M. Application of Fertilizers

1. Calibrate application equipment
2. Adjust rate of application for specific conditions
3. Operate applying equipment

OCCUPATIONAL EXPERIENCES

MONTH _____ 19__

Date	List the Different Kinds of Tasks Performed This Month	Hours Worked
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
TOTAL FOR MONTH		

AGRICULTURAL EDUCATION DEPARTMENT
The Ohio State University
Columbus

TENTH DAY REPORT

Internship Program (Check)

☐ Production Agriculture	☐ Agricultural Products (Food Processing)
☐ FBPA Farm Management	☐ Horticulture
☐ Small Animal	☐ Agricultural Resources
☐ Agricultural Business, Supplies, and Services	☐ Environmental Protection
☐ Agricultural Mechanics	☐ Forestry

Student Name _____ Date _____

Home Address _____ Phone() _____

Address While on Internship _____ Phone() _____

Firm or Name of Employer _____

Address of Employer _____ Phone() _____

Name of Supervisor _____ Title _____

1. Did you discuss the Internship with (a) your general supervisor? _____
(b) with any other person? _____ If so, whom? _____

2. Does your employer seem satisfied with the Internship? _____

3. Are you satisfied with the Internship? _____

4. Are all relations with your employer and fellow employees satisfactory to date? _____ If not, explain on back.

5. Are you relating your work experiences to principles taught in the classroom? _____

6. On what day did you report for work? _____

7. List (on back) the type of work you have done since reporting for work.

8. Are your rooming and eating arrangements satisfactory? _____

9. On the back, diagram a simple map showing the location of your employer, street names, and distance on the main highways from Columbus.

If you have additional comments, write them on the back.

MAIL TO YOUR DEPARTMENTAL COORDINATOR BY THE TENTH DAY YOU HAVE REPORTED FOR WORK

white - OSU
yellow - student
pink - employer
gold - coordinating
teacher

Date Received _____
Dept. Coord. Initials _____

AGRICULTURAL EDUCATION DEPARTMENT
The Ohio State University
Columbus

INTERN ACTIVITY REPORT

Report by _____ for the period of _____ 197__

to _____ 197__ Employment address _____

Phone () _____ Zip _____

Internship Program (Check)

☐ Production Agriculture	☐ Agricultural Products (Food Processing)
☐ FBPA Farm Management	☐ Horticulture
☐ Small Animal	☐ Agricultural Resources
☐ Agricultural Business, Supplies, and Services	☐ Environmental Protection
☐ Agricultural Mechanics	☐ Forestry

Work Experiences

Breakdown of Jobs Performed (Be Specific)	Approx. No. of Hrs. on Each Job Per Reporting Period
Total Number of Hours Worked	

Skills Learned:	Proficiency			Time absent from duty: Days _____ Hours _____
	Some	Average	High	
_____	_____	_____	_____	Reason for absence(s) _____
_____	_____	_____	_____	Number of personal conferences between Manager and Intern _____
_____	_____	_____	_____	Subject _____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

At the end of each month, complete one form and mail to your
Departmental Coordinator

Submitted by: _____ Verified by: _____
Student Intern Employer

white - OSU
yellow - Employer

AGRICULTURAL EDUCATION DEPARTMENT
The Ohio State University
Columbus

EMPLOYER PROGRESS REPORT

Employer: Please return this form in the attached envelope

Student Intern's Name: _____

Please rate the intern on characteristics listed below. Check the appropriate space indicating your evaluation of the student to date.

	Superior	Good	Average	Fair	Poor
1. Punctuality					
2. Willingness to learn					
3. Dependability					
4. Thoroughness of work					
5. Acceptance of constructive criticism					
6. Personal appearance					
7. Cooperation with fellow workers					
8. Work speed					
9. Responsibility					
10. Acceptance by supervisors					
11. Acceptance by others					
12. Technical competence					

13. Other comments _____

Date _____

Firm's Name _____

Address _____

Signature _____

Address _____

